# EXHIBIT 18

## IN THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF DELAWARE

MN

#### EXPERT REPORT OF THOMAS W. BRITVEN

September 5, 2025

Thomas W. Britven

#### TABLE OF CONTENTS

1	EXPERT WITNESS DISCLOSURE AND STATEMENT OF BACKGROUND AND QUALIFICATIONS	2
2		
3		
4		
5		
	5.1 Introduction to Defendant Arm Holdings PLC	_
	5.2 Introduction to Plaintiffs Qualcomm Incorporated and Qualcomm Technologies, Inc	
	5.3 Introduction to the Subject Technology	
	5.4 Introduction to Arm's ISA Licensing Models	
	5.5 Introduction to the Arm-Qualcomm TLA and ALA Agreements at Issue	
	5.6.1 Overview of the Arm v. Qualcomm Dispute	
	5.6.2 Overview of Qualcomm's Allegations and Causes of Action in the Current Case	
	5.7 TIMELINE	
	5.8 Introduction to the Products at Issue	
6	ANALYSIS OF ARM'S OCTOBER 2024 HHY LICENSING OFFER TO QUALCOMM UNDE	7 <b>D</b>
O	SECTIONS OF THE 2013 TLA	
	6.1 Overview of	
	6.2 Overview of 6.3 Overview of	
	6.4 EVALUATION OF THIRD PARTY TLA LICENSES AVAILABLE AS OF THE DATE OF THIS REPORT	30
	6.4.2	
	6.4.3	
	6.4.4	
	6.4.5	
	6.4.6	
	6.4.7	
	6.4.8	
	6.4.9	
	6.5 Observations Regarding	
		61
7	RESPONSE TO THE KENNEDY REPORT	70
	7.1 THE KENNEDY REPORT'S COMPARISON OF	A INI
	7.1 THE KENNEDY REPORT'S COMPARISON OF BENCHMARKS	
	7.1.1 The Kennedy Report Analysis of Focuses on Measure	
	Are Not Relevant Under the TLA	
	7.1.2 The Kennedy Report Analysis of Third-Party TLA Agreements Is Incomplete	
	7.2 THE KENNEDY REPORT'S ANALYSIS OF ALLEGED OVERPAYMENT FOR PERIPHERAL IP LICENSES	
	7.2.1 Qualcomm's Acceptance of the Peripheral IP License Is an Indication of Commercial	
	Reasonableness	
	7.2.2 The Kennedy Report's But-For Price is Not Supported by the Available Evidence	86

7.2.2.1 Conclusion	
7.3 THE KENNEDY REPORT'S ANALYSIS OF DAMAGES DUE TO ALLEGED INTERFERENCE WITH QUAL	COMM'S
PROSPECTIVE ECONOMIC ADVANTAGE	88
7.3.1 Overview of the Kennedy Report's Calculations	88
7.3.2 Evidence Discussed in the Kennedy Report Fails to Show that the Breach Letter and Other	er Arm
Communications Harmed Qualcomm's Business with Customers	91
7.3.2.1	
7.3.3	
7.3.3.2	
7.4 THE KENNEDY REPORT'S QUANTIFICATION OF ALA AND TLA ROYALTIES PAID	
7.4.1 Quantification of Alleged Harm	
7.4.2 Alleged "Extra" Work Due To Arm's Alleged Failure to Provide OOBs	
7.4.3 Alleged "Extra" Work Due To Arm's Alleged Failure to Provide ACK Patches	
7.4.4 Alleged "Extra" Work Due To Arm's Alleged Failure to Provide ETE Checker Support	
7.4.5 Alleged "Extra" Risk Due To Arm's Alleged Failure to Provide OOBs, ACK Patches, and	
Checker Support	
7.4.6 Quantification of Support and Maintenance Fees	
7.4.7 Comparison to Kennedy Report's Quantification of Royalties Paid	111
RESERVATION OF RIGHTS AND COMPENSATION DISCLOSURE	112

8

## 1 EXPERT WITNESS DISCLOSURE AND STATEMENT OF BACKGROUND AND QUALIFICATIONS

- 1. I, Thomas W. Britven, have been asked to serve in an expert witness capacity by counsel for Arm Holdings PLC, formerly known as Arm Ltd. (collectively, "Arm," or "Defendant"). I hereby submit the following expert witness disclosure.
- 2. As presently advised, I expect to testify as an expert witness on issues related to the quantification of damages and remedies, if any, due to Qualcomm Incorporated and Qualcomm Technologies, Inc. (collectively, "Qualcomm" or "Plaintiffs"), based on certain assumptions. For the purposes of this report, I have been asked to analyze certain issues discussed in the August 8, 2025 Expert Report of Patrick F. Kennedy, Ph.D. as they relate to Qualcomm's claims under various causes of action, including breach of contract and intentional interference with prospective economic advantage. No opinions regarding liability are expressed herein. Although my analysis and opinions are based upon the current record to date, I respectfully reserve the right to revise, expand, or supplement my analysis and opinions based on any additional information that may be provided to me.
- I am a Partner at HKA Global LLC ("HKA") and the former President of ASQ Consulting ("ASQ"), an HKA company. ASQ is a professional services firm that provides a multitude of services, including litigation consulting, business strategy, infrastructure development, investment banking, and private equity. ASQ was acquired in 2023 by HKA, a leading global consultancy in risk mitigation, dispute resolution, expert witness, and litigation support services. Prior to ASQ, I held various positions at Duff & Phelps ("D&P"), and I served as a member of its Disputes and Legal Management Practice Vision Committee. D&P, now rebranded as Kroll, is a leading investment banking and financial advisory firm offering an array of services in the areas of valuation, investment banking and transaction advice, and dispute consulting. My experience as a business advisor and consultant has included the study of damages issues in connection with hundreds of disputed matters,

<sup>&</sup>lt;sup>1</sup> The causes of action alleged by Qualcomm include (1) Breach of fine of the QC ALA; (2) Breach of the Implied Covenant of Good Faith and Fair Dealing; (3) Intentional Interference with Prospective Economic Advantage; (4) Negligent Interference with Prospective Economic Advantage; (5) Violations of California Unfair Competition Law; (6) Breach of Section of the QC TLA; and (7) Breach of Section of the QC TLA. See, Second Amended Complaint, June 3, 2025, at 52-64.

including matters involving trade secret, copyright, patent, trademark, unfair competition, tortious interference, breach of contract, and fraud, among others. These matters span a variety of industries, including the automotive, aviation, biotechnology, computer, consumer goods, construction, energy, financial services, healthcare, information technology, manufacturing, medical device, pharmaceutical, retail, semiconductor, software, telecommunications, and transportation industries, among others. My resume is attached to this report as **ATTACHMENT 1.0**.

#### 2 SCOPE OF WORK

- My assignment in connection with this litigation is to assess certain technology licensingrelated work done by ARM and to review and comment on the August 8, 2025 Expert Report of Patrick F. Kennedy, Ph.D. (the "Kennedy Report").
- 5. In performing my study, I and/or others working under my direction have reviewed deposition transcripts and exhibits of the following witnesses:

Table 1
Depositions Received

Deponent	Title	Date
William Abbey	Executive Vice President and Chief Commercial Officer, Arm	June 26, 2025
Vivek Agrawal	Senior Principal Engineer, Arm	July 11, 2025
Cristiano Amon	President and CEO, Qualcomm, Inc.	July 3, 2025
Ziad Asghar	SVP of Product Management, Qualcomm	July 7, 2025
Mohamed Awad	SVP General Manager for the Infrastructure Business, Arm	July 29, 2025
Ami Badani	Chief Marketing Officer, Arm	August 1, 2025
Akshay Bhatnagar	Senior Manager, North America Licensing, Arm	July 10, 2025
Aparajita Bhattacharya	Senior Director Engineering, Arm	July 7, 2025
Ann Chaplin	General Counsel and Corporate Secretary, Qualcomm	July 11, 2025
Larissa Cochron	Senior Director of Contracts, Qualcomm	July 11, 2025
Spencer Collins	Executive Vice President and Chief Legal Officer, Arm	June 30, 2025
Lynn Couillard	VP of Strategic Alliances / VP of Sales, Arm	July 3, 2025
Mark Dragicevich	Senior Director of Finance, Qualcomm	June 27, 2025
Jeffrey Fonseca	Director and Partner Manager, Arm	July 9, 2025

Deponent	Title	Date
Anupa George	Staff Engineer, Arm	July 30, 2025
Jeffrey Golden	Hardware Engineer, Qualcomm	July 3, 2025
Peter Greenhalgh	SVP of Technology, Arm	July 4, 2025
Richard Grisenthwaite	Chief Architect and ARM Fellow, Arm	July 2, 2025
Rene Haas	CEO, Arm	July 7, 2025
Sudeep Holla	Principal Engineer, Arm	June 17, 2025
John Horley	Lead Engineer, Arm	July 8, 2025
Andrew Howard	Vice President of Partner Success and Licensing, Arm	July 1, 2025
Philip Hughes	Corporate Vice President and Chief Communications Officer, Advanced Micro Devices, Inc.	June 17, 2025
James Jeon	VP of Global Commercial Operations, Qualcomm	July 11, 2025
Paul Kranhold	Co-chairman of North America, FGS Global	July 17, 2025
Selena LaCroix	Vice Chair, Technology Practice, Korn Ferry	August 1, 2025
Durga Malladi	Senior VP and General Manager, Technology Planning and Solutions, and Data Center, Qualcomm	July 10, 2025
Richard Meacham	Principal Engineer, Automotive CPU, Qualcomm	June 27, 2025
Dawn Hill Montemagni	Director of Global Sales, Arm	August 15, 2025
Pavankumar Mulabagal	Senior Director of Sales and Business Development, Qualcomm	July 1, 2025
Jannik Nelson	VP of Revenue, Arm	July 10, 2025
Christopher Patrick SVP and General Manager, Mobile and Wearables, Qualcomm		July 2, 2025
Laura Sand	Senior VP, Legal Counsel, Qualcomm	July 8, 2025
Karthik Shivashankar	Senior Director, Commercial Strategy and Licensing, Arm	June 20, 2025
Kenneth Siegel	Managing Partner, Morrison & Foerster LLP	July 4, 2025
Christine Tran	Senior Director, Legal, Arm	July 10, 2025
Jignesh Trivedi	Director of Engineering, Qualcomm	July 9, 2025
Manju Varma	Senior Director, CPU Product Management, Qualcomm	June 24, 2025
Jean-Francois (Jeff) Vidon	Senior Director of Engineering, Qualcomm	July 1, 2025
Martin Weidmann	Director of Product Management, Arm	June 20, 2025
Jonathan Weiser	Former Lead Lawyer for Qualcomm QCT, Qualcomm	July 11, 2025
Karl Whealton	Senior Director, CPU, DSP, Benchmarking, and AI H/W Product Management, Qualcomm	June 18, 2025
Gerard Williams	Senior Director of Engineering, CPU Design, Qualcomm	June 25, 2025

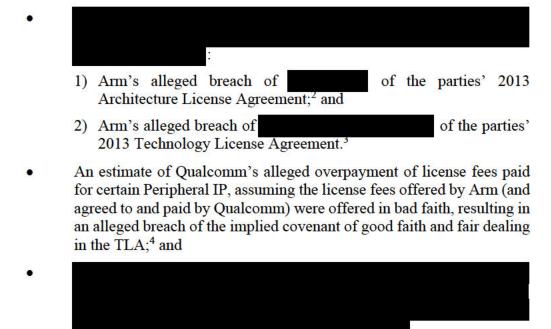
Deponent	Title	Date
Michael Williams	Lead Architect for Debug and RAS Architectures, Arm	June 27, 2025
Paul Williamson	Senior Vice President and General Manager of the IoT Line of Business, Arm	July 2, 2025
Kurt Wolf	Director of Sourcing, Qualcomm	June 25, 2025
Ehab Youssef	VP and Deputy General Counsel, Licensing, Legal Ops, and Trade Compliance, Arm	June 26, 2025

- 6. Also, in performing my study, I and/or others working under my direction have conducted interviews of the following individuals in connection with my work:
  - Akshay Bhatnagar, Senior Manager, North America Licensing at Arm;
  - technical expert Dr. Michael Brogioli;
  - Jeffrey Fonseca, Director and Partner Manager at Arm;
  - Karthik Shivashankar, Senior Director, Commercial Strategy and Licensing at Arm; and
  - Ehab Youssef, Vice President and Deputy General Counsel, Licensing, Legal Ops, and Trade Compliance at Arm.
- Additionally, this report includes a listing of documents that I and/or others working under my direction and supervision have received, reviewed, and/or considered in forming the basis for my opinions as ATTACHMENT 2.0.
- 8. I understand that I may be asked to testify about my opinions in this report as well as damages-related issues raised during cross-examination or by other witnesses. I expect to provide further explanations of the matters I discuss in this report as necessary to clarify my work and opinions to the jury or Court. I have cited to information in this report that supports my opinions, but those citations are not necessarily exhaustive, and I may have reviewed and considered additional documents or information that supports the same opinions and conclusions. If I am called to testify, I reserve the ability to rely on or discuss any information referenced generally (such as documents cited in other reports referenced herein) or specifically in this report and attachments, including in ATTACHMENT 2.0.

9. I reserve the ability to update this report and attachments as additional documentation is received, reviewed, and/or considered. I also reserve the ability to respond to and address new information that may become known to me whether near the time of trial or during trial, to the extent it relates to the content of this report and attachments.

#### 3 SUMMARY OF THE KENNEDY REPORT'S DAMAGES OPINIONS

10. The Kennedy Report presents three damages measures:



11. The Kennedy Report calculates damages under the above methods as follows:

<sup>&</sup>lt;sup>2</sup> Kennedy Report, at 15-19. Qualcomm alleges Arm breached

Second Amended Complaint, June 3, 2025, at 29, 52, 54-55; Plaintiffs'

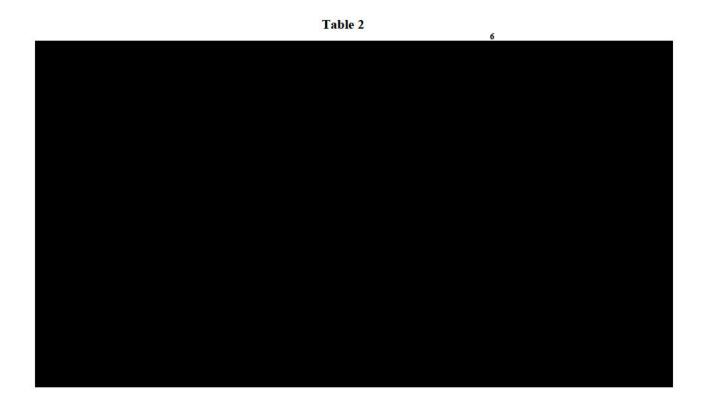
Supplemental Responses and Objections to Defendants' First set of Interrogatories (Nos. 1-9), July 11, 2025, at 33-34, 49; Plaintiffs' Responses and Objections to Defendant's Third Set of Interrogatories (Nos. 14-24), July 11, 2025, at 21-22.

<sup>&</sup>lt;sup>3</sup> Kennedy Report, at 19-23. Qualcomm alleges that Arm breached

Second Amended Complaint, June 3, 2025, at 52-53, 62-64; Plaintiffs' Responses and Objections to Defendant's Third Set of Interrogatories (Nos. 14-24), July 11, 2025, at 8-9.

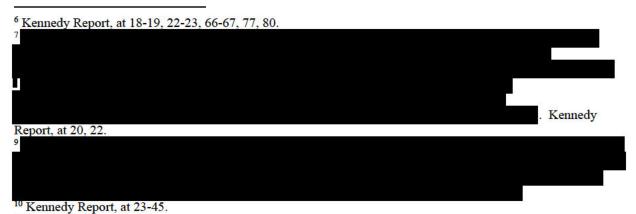
<sup>&</sup>lt;sup>4</sup> Kennedy Report, at 45-67.

<sup>&</sup>lt;sup>5</sup> Kennedy Report, at 68-79.



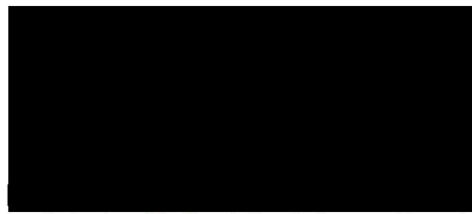
12. In addition to the above damages quantifications, the Kennedy Report presents two licensing analyses:





<sup>&</sup>lt;sup>11</sup> Kennedy Report, at 40.

Page 9 of 112 **RESTRICTED - OUTSIDE ATTORNEYS' EYES ONLY** 



13. I address the various shortcomings of the Kennedy Report's damages opinions and licensing analyses in the section that follows and throughout the balance of this report.

#### 4 SUMMARY OF OPINIONS

- 14. In forming my opinions, I have conducted interviews, performed research of publicly available information, and reviewed the available record, including documents produced by Qualcomm and Arm, deposition testimony, and the expert reports and corresponding attachments submitted in this matter.
- 15. My opinions in this matter are based on my study and analysis of the above information, and my years of training and experience assessing damages, among other things.
- I understand that discovery remains ongoing. For example, I understand that certain thirdparties have objected to the disclosure of their license agreements with Arm, such as
  and have filed motions seeking a protective order, and that those disputes have
  not yet been decided by the Court. I intend to supplement or update my opinions, analyses,
  and calculations as they relate to

  upon
  receipt of this information, if made available. I reserve the ability to supplement or update
  my opinions, analyses and calculations to incorporate any additional relevant information

<sup>12</sup> Kennedy Report, at 45.

<sup>&</sup>lt;sup>13</sup> Kennedy Report, at 40.

<sup>15</sup> Kennedy Report, at 56-63.

<sup>&</sup>lt;sup>16</sup> Kennedy Report, at 63-65.

that may be presented, such as may be revealed in additional documents, licensing agreements, or other information that may be produced at a later date.

17. Based on the above and evidence available as of the date of this report, my opinions with respect to are as follows:



18. Based on the above, and evidence available as of the date of this report, my opinions with respect to the Kennedy Report are as follows:

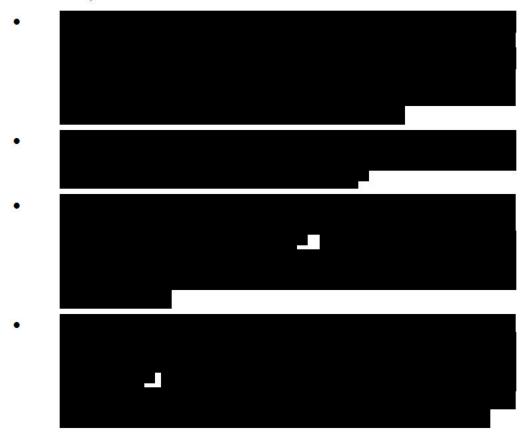


Page 11 of 112

RESTRICTED - OUTSIDE ATTORNEYS' EYES ONLY

the available evidence;

- the Kennedy Report's quantification of the alleged overpayment for Peripheral IP licenses relies upon a but-for price that is not supported by
- the economic evidence indicates that the prices Qualcomm agreed to and paid for the Peripheral IP at Issue were reasonable. In the event the trier-of-fact agrees, damages associated with this cause of action are zero;



19. I expect to update these opinions upon receipt of additional information referenced herein, including the agreement, should it become available after resolution of certain discovery disputes.

<sup>&</sup>lt;sup>17</sup> ATTACHMENT 7.0; Kennedy Report, at 77.

<sup>&</sup>lt;sup>18</sup> ATTACHMENT 3.0.

<sup>19</sup> ATTACHMENT 3.0.

#### 5 CASE BACKGROUND

#### 5.1 Introduction to Defendant Arm Holdings PLC

- 20. Defendant Arm is a world leader in central processing unit ("CPU") technology. Arm architects, develops, and licenses high-performance, low-cost, and energy-efficient IP solutions for CPU, graphics processing units ("GPUs"), neural processing units ("NPUs"), and interconnect technologies.<sup>20</sup>
- 21. Arm was founded as Advanced RISC Machines Ltd. in 1990 as a joint venture between Acorn Computers, Apple Computer (now Apple Inc.), and VLSI Technology (now NXP Semiconductors N.V.).<sup>21</sup> Arm is headquartered in Cambridge, UK,<sup>22</sup> and has additional offices across Asia Pacific, Europe, Middle East, Africa, and North America.<sup>23</sup> Arm employs over 7,000 people worldwide.<sup>24</sup>
- 22. Arm licenses its architecture specifications to other companies, who in turn make Arm-compliant silicon chips<sup>25</sup> to be used in AI, consumer technologies, computing, automotives, and IoT, among other applications.<sup>26</sup> According to Arm, there are more than 325 billion devices that contain Arm-based chips.<sup>27</sup>

## **5.2** Introduction to Plaintiffs Qualcomm Incorporated and Qualcomm Technologies, Inc.

23. Qualcomm Incorporated was founded in 1985 with a focus on improving telecommunications standards and helped to develop 3G, 4G, and 5G wireless connectivity.<sup>28</sup> Qualcomm offers semiconductor solutions for the automotive, extended

<sup>&</sup>lt;sup>20</sup> "Company," Arm, date accessed: July 10, 2025 (accessed: https://www.arm.com/company).

<sup>&</sup>lt;sup>21</sup> "The Official History of Arm," Arm Newsroom, date accessed: August 29, 2025 (accessed: https://newsroom.arm.com/blog/arm-official-history).

<sup>&</sup>lt;sup>22</sup> "The Official History of Arm," Arm Newsroom, date accessed: August 29, 2025 (accessed: https://newsroom.arm.com/blog/arm-official-history).

<sup>&</sup>lt;sup>23</sup> "ARM Global Offices," Arm, date accessed: July 10, 2025 (accessed: https://www.arm.com/company/offices).

<sup>&</sup>lt;sup>24</sup> "The Official History of Arm," Arm Newsroom, date accessed: August 29, 2025 (accessed: https://newsroom.arm.com/blog/arm-official-history).

<sup>&</sup>lt;sup>25</sup> "Arm Architecture for the Digital World," Arm, date accessed: August 29, 2025 (accessed: https://www.arm.com/architecture).

<sup>&</sup>lt;sup>26</sup> "Markets," Arm, date accessed: September 2, 2025 (accessed: https://www.arm.com/markets).

<sup>&</sup>lt;sup>27</sup> "Arm Architecture for the Digital World," Arm, date accessed: August 29, 2025 (accessed: https://www.arm.com/architecture).

<sup>&</sup>lt;sup>28</sup> "Our Company, Qualcomm, date accessed: August 29, 2025 (accessed: https://www.qualcomm.com/company).

- reality, handheld gaming, IoT, computing, and consumer technology industries, among others.<sup>29</sup> Qualcomm also licenses its IP portfolio related to the manufacture and sale of certain wireless products.<sup>30</sup>
- 24. Qualcomm is headquartered in San Diego, California<sup>31</sup> and has additional offices in South America, Asia, Europe, and North America.<sup>32</sup>
- 25. Qualcomm Technologies, Inc. ("QTI") is a subsidiary of Qualcomm Incorporated and operates substantially all of Qualcomm's products and services businesses and Qualcomm's engineering, research, and development functions.<sup>33</sup>

#### 5.3 Introduction to the Subject Technology

#### Instruction Set Architecture

26. Instruction Set Architecture ("ISA") is "part of the abstract model of a computer that defines how the [central processing unit] is controlled by the software." It acts as an interface between the hardware and software, "specifying both what the processor is capable of doing as well as how it gets done."<sup>34</sup> "The ISA defines the supported data types, the registers, how the hardware manages main memory, key features (such as virtual memory), which instructions a microprocessor can execute, and the input/output model of multiple ISA implementations."<sup>35</sup> Understanding the ISA allows developers to write more

<sup>&</sup>lt;sup>29</sup> "System Processors," Qualcomm, date accessed: August 29, 2025 (accessed:

https://www.qualcomm.com/products/system-processors).

<sup>&</sup>lt;sup>30</sup> Qualcomm Incorporated Form 10-K for the fiscal year ended September 29, 2024, at 7, date accessed: July 14, 2025 (accessed: https://s204.q4cdn.com/645488518/files/doc\_financials/2024/q4/QCOM-09-29-24-FY2024-10-K.pdf).

<sup>&</sup>lt;sup>31</sup> "Headquarters," Qualcomm, date accessed: August 29, 2025 (accessed: https://www.qualcomm.com/company/facilities/offices?country=USA&hQ=true).

<sup>&</sup>lt;sup>32</sup> "About Qualcomm – Company Information & History," Qualcomm, date accessed: August 29, 2025 (accessed: https://www.qualcomm.com/company#locations).

<sup>&</sup>lt;sup>33</sup> Qualcomm Incorporated Form 10-K for the fiscal year ended September 29, 2024, at 13, date accessed: July 14, 2025 (accessed: https://s204.q4cdn.com/645488518/files/doc\_financials/2024/q4/QCOM-09-29-24-FY2024-10-K.pdf).

<sup>&</sup>lt;sup>34</sup> "What is Instruction Set Architecture (ISA)," Arm, date accessed: July 11, 2025 (accessed: https://www.arm.com/glossary/isa).

<sup>&</sup>lt;sup>35</sup> "What is Instruction Set Architecture (ISA)," Arm, date accessed: July 11, 2025 (accessed: https://www.arm.com/glossary/isa).

- efficient code and understand the output of the compiler. ISAs are typically updated over time to "support emerging technologies, optimize efficiency, or add new functionality."<sup>36</sup>
- 27. I understand that there are two primary computing architecture philosophies: complex instruction set computer ("CISC") ISA and reduced instruction set computer ("RISC") ISA.<sup>37</sup> Differences between the two include the speed of instruction execution, power consumption, and number of transistors required (which in turn affects the size of central processing units).<sup>38</sup> I understand that CPUs and the associated computing system software and hardware components in ISAs are based on the same ISA.<sup>39</sup>
- 28. There are several licensors of both CISC and RISC ISAs, and ISAs are licensed under different brand names. For example, I understand that x86, an architecture developed by Intel, is seen as the industry standard for CISC<sup>40</sup> and is the prevalent architecture used in desktop and laptop computers as well as datacenters and high-performance computing environments.<sup>41</sup> Intel and AMD are the two primary manufacturers of x86-architecture processors.<sup>42</sup>
- 29. Licensors of RISC architectures include ARM and RISC-V.<sup>43</sup> Arm's RISC ISA is widely used in smartphone and tablet CPUs, and chips using ARM's ISA have recently expanded

<sup>&</sup>lt;sup>36</sup> "Semiconductors: Technology and Market Primer 13.0, Oppenheimer Equity Research Industry Update, at 23.

<sup>&</sup>lt;sup>37</sup> "Semiconductors: Technology and Market Primer 13.0, Oppenheimer Equity Research Industry Update, at 23.

<sup>&</sup>lt;sup>38</sup> CISC ISA can handle fewer and more powerful demands, reducing programming complexity, and allowing software developers to write programs more efficiently. However, CISC architecture requires more transistors, which makes processors larger and potentially slower to execute instructions. RISC ISA, on the other hand, uses minimal, straightforward instructions that execute quickly, enhancing performance, streamlining CPU design, and reducing hardware complexity. "Semiconductors: Technology and Market Primer 13.0, Oppenheimer Equity Research Industry Update, at 23-25.

<sup>&</sup>lt;sup>39</sup> "The Basics of Instruction Set Architecture," Lenovo, date accessed: August 26, 2025 (accessed: https://www.lenovo.com/us/en/glossary/instruction-set-architecture/?orgRef=https%253A%252F%252Fwww.bing.com%252F).

<sup>&</sup>lt;sup>40</sup> "Semiconductors: Technology and Market Primer 13.0, Oppenheimer Equity Research Industry Update, at 24.

<sup>41 &</sup>quot;Intel and AMD are unlikely allies in new x86 ecosystem advisory group – 'we'll remain fierce competitors," Tom's Hardware, date accessed: August 1, 2025 (accessed: https://www.tomshardware.com/pc-components/cpus/intel-and-amd-forge-x86-ecosystem-advisory-group-that-aims-to-ensure-a-unified-isa-moving-

forward#xenforo-comments-3857628); "Semiconductors: Technology and Market Primer 13.0, Oppenheimer Equity Research Industry Update, at 24-26.

<sup>&</sup>lt;sup>42</sup> "Intel and AMD are unlikely allies in new x86 ecosystem advisory group – 'we'll remain fierce competitors," Tom's Hardware, date accessed: August 1, 2025 (accessed: https://www.tomshardware.com/pc-components/cpus/intel-and-amd-forge-x86-ecosystem-advisory-group-that-aims-to-ensure-a-unified-isa-moving-forward#xenforo-comments-3857628).

<sup>&</sup>lt;sup>43</sup> "Semiconductors: Technology and Market Primer 13.0, Oppenheimer Equity Research Industry Update, at 25.

into desktops, automobiles, servers, and embedded systems.<sup>44</sup> RISC-V is a relatively newer RISC-based ISA that is distributed using an open-source model.<sup>45</sup> RISC-V is gaining popularity amongst companies including Nvidia, Google, Red Hat, SiFive, and others.<sup>46</sup>

#### CPU Cores

- 30. A CPU core is the processing unit that executes program instructions, performs calculations, manages data flow, and coordinates with other components. Each core processes information independently.<sup>47</sup> A CPU can have multiple cores, which enables the system to handle multiple tasks simultaneously.<sup>48</sup>
- 31. I understand that CPUs are used in smartphones, consumer electronics (including TVs, tablets, laptops, and desktops, among others), industrial IoT (including washing machines, thermostats, cameras, and drones, among others), networking equipment, cloud computing, and other infrastructure.<sup>49</sup>
- 32. A System-on-a-Chip ("SoC") "is a complete processing system contained in a single package that contains multiple processing parts," "typically including a [CPU], memory, input and output ports, peripheral interfaces, and secondary storage devices." In traditional PC designs, individual components are built onto a motherboard separately with

<sup>&</sup>lt;sup>44</sup> "Semiconductors: Technology and Market Primer 13.0, Oppenheimer Equity Research Industry Update, at 25.

<sup>&</sup>lt;sup>45</sup> "Semiconductors: Technology and Market Primer 13.0, Oppenheimer Equity Research Industry Update, at 26.

<sup>&</sup>lt;sup>46</sup> "RISC-V's Ascent Could Reshape The Global Compute Landscape," Forbes, July 24, 2025, date accessed: July 31, 2025 (accessed: https://www.forbes.com/sites/davealtavilla/2025/07/24/risc-vs-ascent-could-reshape-the-global-compute-landscape/).

<sup>&</sup>lt;sup>47</sup> "CPU Cores Explained: How Many Do You Need?," HP, date accessed: July 30, 2025 (accessed: https://www.hp.gom/hp.g/tach\_tales/app.gom/s. how many do i

https://www.hp.com/us-en/shop/tech-takes/cpu-cores-how-many-do-i-need?cjdata=MXxOfDB8WXww&utm\_medium=af&utm\_source=cj&utm\_campaign=Microsoft+Shopping+%28Bi

need?cjdata=MXxOfDB8WXww&utm\_medium=af&utm\_source=cj&utm\_campaign=Microsoft+Shopping+%28Bing+Rebates%2C+Coupons%2C+etc.%29&utm\_content=5250933\_Microsoft+Shopping+%28Bing+Rebates%2C+Coupons%2C+etc.%29\_100357191&cjevent=2f013fec6d7311f081bd01750a18b8fc&subacctname=Microsoft+Shopping+%28Bing+Rebates%2C+Coupons%2C+etc.%29).

<sup>&</sup>lt;sup>48</sup> "CPU Cores Explained: How Many Do You Need?," HP, date accessed: July 30, 2025 (accessed: https://www.hp.com/us-en/shop/tech-takes/cpu-cores-how-many-do-i-

 $need? cjdata=MXxOfDB8WXww\&utm\_medium=af\&utm\_source=cj\&utm\_campaign=Microsoft+Shopping+\%28Bing+Rebates\%2C+Coupons\%2C+etc.\%29\&utm\_content=5250933\_Microsoft+Shopping+\%28Bing+Rebates\%2C+Coupons\%2C+etc.\%29\_100357191\&cjevent=2f013fec6d7311f081bd01750a18b8fc\&subacctname=Microsoft+Shopping+\%28Bing+Rebates\%2C+Coupons\%2C+etc.\%29).$ 

<sup>&</sup>lt;sup>49</sup> ARM 01259705-6105, at 717-719.

<sup>&</sup>lt;sup>50</sup> "What Is SoC Development?," Arm, date accessed: July 30, 2025 (accessed: https://www.arm.com/glossary/socdevelopment).

- lines of communication between them. SoCs have all major components built into the same silicon chip, which reduces latency and boosts performance of the system.<sup>51</sup>
- 33. I understand that CPU design is complex and that while some CPU sellers may develop their own custom designs, others license CPU designs from third parties.<sup>52</sup> Arm is one such licensor of CPU designs, licensing designs that are compatible with its own ISA.<sup>53</sup> Qualcomm sells both custom SoCs (which are compliant with the ARM ISA, licensed from ARM) as well as SoCs that make use of third-party designs (including ARM ISA-compliant designs licensed from ARM).<sup>54</sup> Qualcomm has identified Apple, Intel, and AMD as its biggest competitors in building custom CPUs.<sup>55</sup> Indeed, in its 2024 Annual Report, Qualcomm lists its current competitors as Broadcom, HiSilicon, MediaTek, Mobileye, Nvidia, NXP Semiconductors, Qorvo, Samsung, Skyworks, Texas Instruments, and UNISOC.<sup>56</sup>

#### 5.4 Introduction to Arm's ISA Licensing Models

- 34. I understand that Arm grants several types of licenses that include its ISA technology, including, for example, Architecture License Agreements ("ALAs"), Technology License Agreements ("TLAs") and Arm Total Access Agreements ("Total Access Agreements" or "ATAs").<sup>57</sup>
- 35. ALAs grant rights to Arm Technology that allow licensees to design their own custom CPU cores that are compatible with the Arm ISA; in addition to Qualcomm, such licensees

<sup>&</sup>lt;sup>51</sup> "What is a System-on-Chip (SoC)?," Windows Central, date accessed: July 30, 2025 (accessed: https://www.windowscentral.com/hardware/laptops/what-is-a-system-on-chip-soc).

<sup>&</sup>lt;sup>52</sup> See, "The Rise of Licensed IP In Edge AI and Smart Device Manufacturing," Forbes, date accessed: August 28, 2025 (accessed: https://www.forbes.com/councils/forbestechcouncil/2025/08/28/why-the-next-wave-of-ai-innovation-wont-be-built-from-scratch/); "The Shift to Custom Silicon: Why Companies Are Designing Their Own Chips," Nasdaq, date accessed: August 28, 2025 (accessed: https://www.nasdaq.com/articles/shift-custom-silicon-why-companies-are-designing-their-own-chips).

<sup>&</sup>lt;sup>53</sup> "Microprocessor Cores and Processor Technology - Arm®," Arm, date accessed: August 27, 2025 (accessed: https://www.arm.com/products/silicon-ip-cpu).

<sup>&</sup>lt;sup>54</sup> Second Amended Complaint, June 3, 2025, at 3-4.

<sup>&</sup>lt;sup>55</sup> QCVARM\_0846761-870, at 764; "Intel vs AMD vs Qualcomm: Who's Leading the CPU War in 2025," Business Economy, date accessed: July 31, 2025 (accessed: https://www.businesseconomy.com/technology/intel-vs-amd-vs-qualcomm-whos-leading-the-cpu-war-in-2025/).

<sup>&</sup>lt;sup>56</sup> Qualcomm Incorporated Form 10-K for the fiscal year ended September 29, 2024, at 12.

<sup>&</sup>lt;sup>57</sup> Interview of Akshay Bhatnagar, Karthik Shivashankar, and Ehab Youssef.

Under an ALA, Arm does not provide designs for processors or processor components but rather grants rights to use Arm architecture.<sup>59</sup> For major developments of the Arm architecture, Arm will release a new version (e.g. v7, v8, v9). These new versions of the Arm architecture are periodically released by Arm, and during the gaps between releases, Arm continues to invest in engineering.<sup>60</sup> For minor developments, Arm releases an extension to the latest version of architecture, denoted by ".x" after the version number (e.g. v8.1, v8.2, v8.3).<sup>61</sup> According to Arm, it does not grant many ALAs, because the design of custom processor cores by Arm customers is time-intensive, risky, and requires a significant amount of support from Arm.<sup>62</sup> Compensation for an ALA agreement typically takes the form of both a fixed fee and a running royalty for the licensed products.<sup>63</sup>

- 36. The Arm Technology granted under TLAs can include, among other things, designs for processors or processor components themselves that are compatible with the Arm ISA.<sup>64</sup> I understand that under a TLA, the licensee can identify specific Arm products (referred to as "Arm IPs" or "IPs") it intends to use and taking a license to only those products.<sup>65</sup> Compensation for a TLA agreement typically takes the form of both a fixed fee and a running royalty for the licensed products.<sup>66</sup>
- 37. Arm's ALA and TLA agreements provide the general terms of the licenses, and are accompanied by an Annex that, among other things, lists the specific licensed Arm

<sup>&</sup>lt;sup>58</sup> Complaint (Case No. 1:22-cv-01146-MN), August 31, 2022, at 5; Deposition of Rene Haas, July 7, 2025, at 225:3-7.

<sup>&</sup>lt;sup>59</sup> See generally, "Learn the architecture – Understanding the Armv8.x and Armv9.x extensions," Arm, date accessed: August 1, 2025 (accessed: https://documentation-service.arm.com/static/663e39db9007496a66f74481). <sup>60</sup> Deposition of Rene Haas, July 7, 2025, at 150:12-23.

<sup>&</sup>lt;sup>61</sup> "Learn the architecture – Understanding the Armv8.x and Armv9.x extensions," Arm, p.7, date accessed: August 1, 2025 (accessed: https://documentation-service.arm.com/static/663e39db9007496a66f74481).

<sup>&</sup>lt;sup>62</sup> Complaint (Case No. 1:22-cv-01146-MN), August 31, 2022, at 4-5. Mr. Youssef testified that since Qualcomm's 2019 ALA agreement, Arm has granted only two additional ALAs: one with Apple and one with IBM. Deposition of Ehab Youssef, June 26, 2025, at 30:11-32:5.

<sup>&</sup>lt;sup>63</sup> Arm's First Supplemental Objections and Responses to Qualcomm's Second Set of Interrogatories (Nos. 4-11), July 11, 2025, at 18-19.

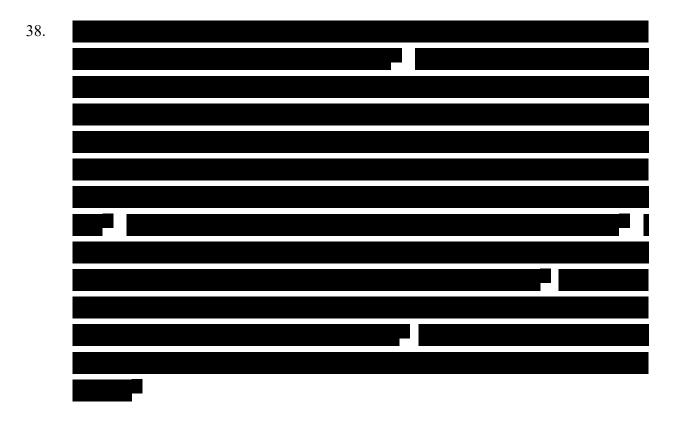
<sup>&</sup>lt;sup>64</sup> Complaint (Case No. 1:22-cv-01146-MN), August 31, 2022, at 4-5.

<sup>65</sup> Interview of Akshay Bhatnagar, Karthik Shiyashankar, and Ehab Youssef.

<sup>&</sup>lt;sup>66</sup> ARM 00006123-155, at 153-154; QCVARM 0710047-120, at 120.

<sup>&</sup>lt;sup>67</sup> ARM\_QC\_02784120-198, at 130; Arm Holdings plc Form 20-F for the fiscal year ended March 31, 2025, at 68.

products and associated fixed fees, and by a Master Royalty Schedule, which sets out, among other things, the associated running royalties.<sup>68</sup>



#### 5.5 Introduction to the Arm-Qualcomm TLA and ALA Agreements at Issue

39. Arm and Qualcomm first entered into a TLA on September 30, 1997 (the "Original TLA"),<sup>75</sup> and entered into a new TLA<sup>76</sup> and associated Annexes<sup>77</sup> on May 30, 2013 (the "2013 TLA"). The parties agreed to additional TLA Annexes adding certain licensed

<sup>&</sup>lt;sup>68</sup> See, e.g. ARM\_00103918-972, at 918-919 [TLA]; ARM\_00055357-399, at 357 [ALA]; ARM\_00063298-312, at 308-309 [ANNEX to ALA]. ARM\_01298891-929, at 894 [Master Royalty Schedule to ALA]; *See also*, Deposition of Ehab Youssef, June 26, 2025, at 34:3-12.

<sup>&</sup>lt;sup>69</sup> ARMQC 02784120-198, at 126-127.

<sup>&</sup>lt;sup>70</sup> "Arm Total Access," Arm, date accessed: August 28, 2025 (accessed:

https://www.arm.com/products/licensing/arm-total-access); ARMQC\_02784120-198, at 167; Interview of Akshay Bhatnagar, Karthik Shivashankar, and Ehab Youssef.

<sup>&</sup>lt;sup>71</sup> ARMQC\_02784120-198, at 166-178; Interview of Akshay Bhatnagar, Karthik Shivashankar, and Ehab Youssef.

<sup>&</sup>lt;sup>72</sup> Interview of Akshay Bhatnagar, Karthik Shivashankar, and Ehab Youssef.

<sup>&</sup>lt;sup>73</sup> Interview of Akshay Bhatnagar, Karthik Shivashankar, and Ehab Youssef.

<sup>&</sup>lt;sup>74</sup> ARMQC 02784120-198, at 127 and 167.

<sup>&</sup>lt;sup>75</sup> ARM\_00103918-972, at 918.

<sup>&</sup>lt;sup>76</sup> ARM 00103918-972.

<sup>&</sup>lt;sup>77</sup> ARM 00103918-972, at 918.

products, in 2019,<sup>78</sup> 2020,<sup>79</sup> and 2024.<sup>80</sup> Qualcomm first received a license to three of the products at issue – — as part of the 2019 series of TLA-related agreements.<sup>81</sup> I refer to the agreement that added rights to — as the "2019 Annex 1." I discuss the products at issue further in **Section 5.8.** 



42. I list certain agreements between Arm and Qualcomm in **ATTACHMENT** 10.0 and summarize the terms of the 2013 ALA, 2013 TLA and certain additional agreements in **ATTACHMENT 2.0.**.

#### **5.6** Introduction to the Dispute

43. I understand that certain issues in the current case relate to an ongoing dispute between the parties regarding Arm's various ALA, TLA and related agreements with Qualcomm.<sup>90</sup> I understand the dispute began around the time of Qualcomm's 2021 acquisition of Nuvia,

<sup>&</sup>lt;sup>78</sup> ARM 00006123-155; ARMQC 02772366-385; QCARM 0029357-358.

<sup>&</sup>lt;sup>79</sup> QCARM 3480078-094.

<sup>&</sup>lt;sup>80</sup> QCVARM 0525196-202.

<sup>81</sup> Deposition of Ehab Youssef, June 26, 2025, at 34:24-35:21.

<sup>&</sup>lt;sup>82</sup> ARM 00055357-399, at 357.

<sup>&</sup>lt;sup>83</sup> ARM 00055357-399.

<sup>&</sup>lt;sup>84</sup> QCARM\_0343120-142.

<sup>85</sup> OCARM 0343954-976.

<sup>&</sup>lt;sup>86</sup> QCARM 0337591-627.

<sup>&</sup>lt;sup>87</sup> QCARM 0338180-242.

<sup>88</sup> OCARM 0338352-429.

<sup>&</sup>lt;sup>89</sup> ARM 00086164-245.

<sup>&</sup>lt;sup>90</sup> Second Amended Complaint, June 3, 2025, at 52-53.

Inc. ("Nuvia"), a start-up CPU company.<sup>91</sup> In the sections that follow, I give a brief overview of some of the issues in that initial dispute that the parties reference in the current case, and then provide an overview of the allegations and causes of action in the current case.

#### 5.6.1 Overview of the Arm v. Qualcomm Dispute

- 44. Arm filed suit against Qualcomm on August 31, 2022 (Case No. 1:22-cv-01146-MN), alleging breach of contract and trademark infringement, among other causes of action (the "Arm v. Qualcomm Dispute"). <sup>92</sup> I understand that Arm withdrew its trademark infringement claims prior to trial.
- 45. I understand that a central issue in the *Arm v. Qualcomm* Dispute was Qualcomm's intent to integrate Nuvia designs into its own products and its position that the terms of Qualcomm's ALA and TLA with Arm, which gave Qualcomm the right to design custom process cores based on Arm architecture and to modify certain off-the-shelf designs, were applicable to Qualcomm products with Nuvia designs.<sup>93</sup>
- 46. I understand that Arm disagreed with Qualcomm's position and informed Qualcomm that Qualcomm could not use Nuvia's designs that were developed under the Nuvia ALA without Arm's consent. In February 2022, Arm sent a letter to Qualcomm and Nuvia terminating the Nuvia licenses as of March 1, 2022. I understand that Qualcomm asserted that Qualcomm was developing its cores and products under its own agreements with Arm and that this dispute led to the filing of the *Arm v. Qualcomm* Dispute complaint on August 31, 2022.

<sup>&</sup>lt;sup>91</sup> "Qualcomm Acquires NUVIA To Accelerate Its Future CPUs With Support From 18 Partners," Forbes, date accessed: July 28, 2025 (accessed: https://www.forbes.com/sites/patrickmoorhead/2021/01/13/qualcomm-acquires-nuvia-to-accelerate-its-future-cpus-with-support-from-18-partners/); Complaint (Case No. 1:22-cv-01146-MN), August 31, 2022, at 7.

<sup>92</sup> Complaint (Case No. 1:22-cv-01146-MN), August 31, 2022, at 16-29.

<sup>93</sup> Complaint (Case No. 1:22-cv-01146-MN), August 31, 2022, at 5-6, 8, 10.

<sup>&</sup>lt;sup>94</sup> Complaint (Case No. 1:22-cv-01146-MN), August 31, 2022, at 10.

<sup>95</sup> Complaint (Case No. 1:22-cv-01146-MN), August 31, 2022, at 12.

<sup>&</sup>lt;sup>96</sup> Second Amended Complaint, June 3, 2025, at 5-6.

<sup>&</sup>lt;sup>97</sup> Complaint (Case No. 1:22-cv-01146-MN), August 31, 2022.

- 47. On October 22, 2024, Arm sent a letter (the "Breach Letter") notifying Qualcomm that, among other things, it was in material breach of the ALA with respect to its use of designs, technology and code created by Nuvia, and that Arm was entitled to terminate the ALA if the breach was not cured within 60 days.<sup>98</sup>
- 48. A trial was held, and on December 20, 2024, the jury concluded that Qualcomm had not breached Section 15.1(a) of the Nuvia ALA and that Qualcomm's CPUs that include designs acquired in the Nuvia acquisition are licensed under the Qualcomm ALA. 99 However, the jury did not reach a decision on Question 1 regarding Nuvia's breach of the Nuvia ALA.

## 5.6.2 Overview of Qualcomm's Allegations and Causes of Action in the Current Case

- 49. Qualcomm has countersued Arm for breach of contract and other causes of action.<sup>100</sup> Qualcomm filed its initial complaint on April 18, 2024, and its First Amended Complaint on December 16, 2024.<sup>101</sup> Qualcomm filed its Second Amended Complaint on June 3, 2025.<sup>102</sup>
- 50. With respect to the 2013 TLA, I understand Qualcomm contends that Arm:
  - breached
     breached
     breached
- 51. I understand that Qualcomm contends that part of its TLA claims also include an allegation that Arm breached the covenant of good faith and fair dealing implied in the 2013 TLA as

<sup>98</sup> Second Amended Complaint (Case No: 24-490-MN), Exhibit A.

<sup>99</sup> Verdict Form (Case No. 1:22-cv-01146-MN), December 20, 2024, at 2.

<sup>100</sup> Second Amended Complaint, June 3, 2025, at 29, 52-64.

<sup>101</sup> Complaint, April 18, 2024, at 23. First Amended Complaint, December 16, 2024, at 48.

<sup>&</sup>lt;sup>102</sup> Second Amended Complaint, June 3, 2025, at 66.

<sup>&</sup>lt;sup>103</sup> Second Amended Complaint, June 3, 2025, at 52-53, 62-63; Plaintiffs' Responses and Objections to Defendant's Third Set of Interrogatories (Nos. 14-24), July 11, 2025, at 8-9.

<sup>&</sup>lt;sup>104</sup> Second Amended Complaint, June 3, 2025, at 52-53, 63-64; Plaintiffs' Responses and Objections to Defendant's Third Set of Interrogatories (Nos. 14-24), July 11, 2025, at 8-9.

part as part of its alleged failure to provide commercially reasonable offers to access IP licensed under TLAs, including certain products Arm refers to as "Peripheral IP." I understand from counsel for Arm there is a dispute as to whether these allegations are part of the case. In the event the Court determines Qualcomm's allegations are indeed part of the case, I provide my opinions below responding to the Kennedy Report's assessment of damages for Arm's alleged breach as it relates to "Peripheral IP."

52. With respect to the 2013 ALA, I understand Qualcomm contends that Arm:

•	breached	
		06

- breached the covenant of good faith and fair dealing implied in the 2013 ALA by:<sup>107</sup>
  - o withholding deliverables,
  - o asserting that Qualcomm was in material breach of the 2013 ALA,
  - making public statements, including making the Breach Letter public and making statements to Qualcomm customers, that "create[d] uncertainty about Qualcomm's ability to provide its customers with products containing custom CPUs," and

0	failing to negotiate		
		cover	of Arm's
	ISA.	<u> </u>	

- 53. I understand that Qualcomm further alleges that Arm intentionally and negligently interfered with Qualcomm's prospective economic advantage as it relates to Qualcomm's efforts to sell its customers certain SoCs by:<sup>108</sup>
  - o purporting to terminate the 2013 ALA, as described above,
  - by intentionally making the Breach Letter public, as described above, and

<sup>&</sup>lt;sup>105</sup> Second Amended Complaint, June 3, 2025, at 34, 55-56; Plaintiffs' Responses and Objections to Defendant's Third Set of Interrogatories (Nos. 14-24), July 11, 2025, at 8-9, 18.

<sup>&</sup>lt;sup>106</sup> Second Amended Complaint, June 3, 2025, at 29, 52, 54-55; Plaintiffs' Supplemental Responses and Objections to Defendants' First set of Interrogatories (Nos. 1-9), July 11, 2025, at 33-34, 49; Plaintiffs' Responses and Objections to Defendant's Third Set of Interrogatories (Nos. 14-24), July 11, 2025, at 21-22.

<sup>&</sup>lt;sup>107</sup> Second Amended Complaint, June 3, 2025, at 55-56; Plaintiffs' Supplemental Responses and Objections to Defendants' First set of Interrogatories (Nos. 1-9), July 11, 2025, at 35, 50; Plaintiffs' Responses and Objections to Defendant's Third Set of Interrogatories (Nos. 14-24), July 11, 2025, at 19-20, 22.

<sup>108</sup> Second Amended Complaint, June 3, 2025, at 56-59.

 by making misleading statements to Qualcomm customers, as described above.

Although Qualcomm has identified several customers associated with this allegation, I understand that Qualcomm has only quantified damages with respect to Qualcomm's

- 54. I describe the specific Arm Implementation Cores and Peripheral IP at issue, the allegedly withheld deliverables, and the allegedly disrupted Qualcomm SoCs at issue in this dispute further in **Section 5.8** below.
- 55. In addition to the above claims with respect to the 2013 TLA and 2013 ALA, I understand Qualcomm further alleges that Arm has engaged in violations of California Unfair Competition Law, Cal. Bus. & Prof. Code §17200 by engaging in the activities described above as "part of a broader campaign to harm or threaten to harm competition for CPU and other computer chip designs, in California and elsewhere" and as part of an "attempt to prevent Qualcomm from developing and marketing products with CPUs that threaten to outcompete products containing Arm's off-the-shelf CPU designs." <sup>110</sup>

#### 5.7 Timeline

56. I understand Qualcomm references the following events as part of its allegations in this case:

•	May 20, 2020:	
		. 111

- August 31, 2022: Arm filed the Arm v. Qualcomm suit. 112
- August 2022 and May 2023: Qualcomm asserts that Arm "reached out to Qualcomm customers directly about the status of Qualcomm's [2013 ALA] license."

<sup>&</sup>lt;sup>109</sup> Kennedy Report, at 68-80.

<sup>&</sup>lt;sup>110</sup> Second Amended Complaint, June 3, 2025, at 59-62.

<sup>&</sup>lt;sup>111</sup> Plaintiffs' Supplemental Responses and Objections to Defendants' First set of Interrogatories (Nos. 1-9), July 11, 2025, at 35; ARM 00085567-571.

<sup>112</sup> Complaint (Case No. 1:22-cv-01146-MN), August 31, 2022.

<sup>&</sup>lt;sup>113</sup> Plaintiffs' Supplemental Responses and Objections to Defendants' Defendants' First set of Interrogatories (Nos. 1-9), July 11, 2025, at 35.

- Fall of 2022: Qualcomm asserts that Arm began withholding certain deliverables under its 2013 ALA.<sup>114</sup>
- November 3, 2022 and December 5, 2022: Qualcomm notified Arm of its non-compliance with the 2013 ALA.<sup>115</sup>
- September 2023 April 2024: Qualcomm asserts it sent to license certain Peripheral IP in September 2023, <sup>116</sup> October 13, 2023, <sup>117</sup> and April 2024. <sup>118</sup>
- April 18, 2024: Qualcomm filed its initial complaint. 122
- September 20, 2024 and September 27, 2024: Qualcomm asserts it notified Arm of its alleged failure to comply with certain 2013 TLA licensing terms. 123
- October 2, 2024: Qualcomm sent
- October 22, 2024: Arm notified Qualcomm that it was in material breach of the 2013 ALA and made the Breach Letter public. 125
- ;<sup>126</sup> Qualcomm asserts that this offer failed to meet Arm's licensing obligations under the 2013 TLA.<sup>127</sup>

<sup>&</sup>lt;sup>114</sup> Second Amended Complaint, June 3, 2025, at 29-30, 52, 54-55; Plaintiffs' Supplemental Responses and Objections to Defendants' First set of Interrogatories (Nos. 1-9), July 11, 2025, at 33-34, 49; ARM 00056571-573.

 <sup>115</sup> Second Amended Complaint, June 3, 2025, at 29-30, 52, 54-55; Plaintiffs' Supplemental Responses and Objections to Defendants' First set of Interrogatories (Nos. 1-9), July 11, 2025, at 33-34, 49; ARM\_00056571-573.
 116 QCVARM 0608131-138, at 133-134.

<sup>117</sup> QCVARM\_0613037-039, at 037.

<sup>118</sup> QCVARM 0616935.

<sup>119</sup> QCVARM 0524362.

<sup>120</sup> QCVARM 0616975-976, at 975.

<sup>&</sup>lt;sup>121</sup> Plaintiffs' Responses and Objections to Defendant's Third Set of Interrogatories (Nos. 14-24), July 11, 2025, at 10; QCVARM 0526828-830.

<sup>&</sup>lt;sup>122</sup> Complaint, April 18, 2024, at 23.

<sup>&</sup>lt;sup>123</sup> QCVARM\_0616912-913; QCVARM\_0616916-918.

<sup>124</sup> QCVARM 1151620.

<sup>&</sup>lt;sup>125</sup> Plaintiffs' Supplemental Responses and Objections to Defendants' First set of Interrogatories (Nos. 1-9), July 11, 2025, at 35.

<sup>126</sup> OCVARM 0616967-969.

<sup>&</sup>lt;sup>127</sup> Plaintiffs' Responses and Objections to Defendant's Third Set of Interrogatories (Nos. 14-24), July 11, 2025, at 10-11. *See also*, ARMQC 02783619-730.

- October 31, 2024: Qualcomm sent the first draft of the term sheet to
- **November 11, 2024**: provided a revised term sheet to Oualcomm. 129
- 130
- **December 2024 July 2025**: Qualcomm and engaged in further negotiations. <sup>131</sup>
- December 16, 2024: Qualcomm filed its First Amended Complaint. 132
- **December 20, 2024:** Jury verdict in *Arm v. Qualcomm* dispute. <sup>133</sup>
- 134
- February 4, 2025:
- June 3, 2025: Qualcomm filed its Second Amended Complaint. 136
- July 21, 2025:

#### 5.8 Introduction to the Products at Issue

57. The Kennedy Report identifies the following ARM products at issue under the 2013 TLA breach allegations:<sup>138</sup>

Table 3



<sup>&</sup>lt;sup>128</sup> QCVARM\_0863641-643; QCVARM\_0863644-646.

<sup>&</sup>lt;sup>129</sup> QCVARM 0864967-968; QCVARM 0864969-972.

<sup>130</sup> QCVARM 0618354.

<sup>&</sup>lt;sup>131</sup> QCVARM\_1151573-577, at 577.

<sup>132</sup> First Amended Complaint, December 16, 2024, at 48.

<sup>&</sup>lt;sup>133</sup> Verdict Form (Case No. 1:22-cv-01146-MN), December 20, 2024.

<sup>&</sup>lt;sup>134</sup> QCVARM 0523650-652.

<sup>&</sup>lt;sup>135</sup> QCVARM 0523650-652, at 652.

<sup>136</sup> Second Amended Complaint, June 3, 2025, at 66.

<sup>&</sup>lt;sup>137</sup> QCVARM\_1151573-577, at 577.

<sup>&</sup>lt;sup>138</sup> Kennedy Report, at 13-14, 19-20, 45-46, Schedule 5.



- I understand that Arm Implementation Cores are implementations of Arm microprocessor cores that do not contain any customizations. I refer to the Arm Implementation Cores listed in **Table 3** as either the "Implementation Cores At Issue" or as the "

  Qualcomm first received a license to

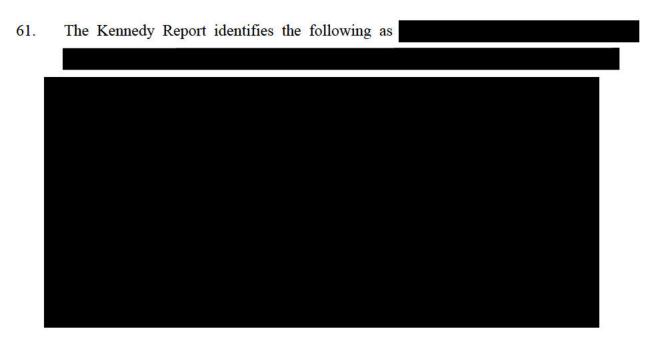
  as part of the 2019 series of TLA-related agreements under a license from
- I understand that Peripheral IP includes systems IP that work in conjunction with a core. <sup>141</sup>
  I refer to the Peripheral IP listed in **Table 3**, *i.e.*, as the "Peripheral IP at Issue."
- 60. The Kennedy Report identifies the following ARM products at issue under the 2013 ALA breach allegations: 142
  - software patches (i.e., source code updates) for the Arm Architecture Compliance Kit ("ACK"), which I understand is a series of test suites that check the compliance of a system against Arm architectural specifications, which are intended for certain Arm ISA-compliant SoCs; and
  - the Out of Box ("OOB") which I understand is a master list of ACK tests, <sup>144</sup> for certain Arm ISA-compliant SoCs.

<sup>&</sup>lt;sup>139</sup> Deposition of William Abbey, June 26, 2025, at 64:16-22; 140:1-4. *See also*, ARM\_00103918-972, at 918.

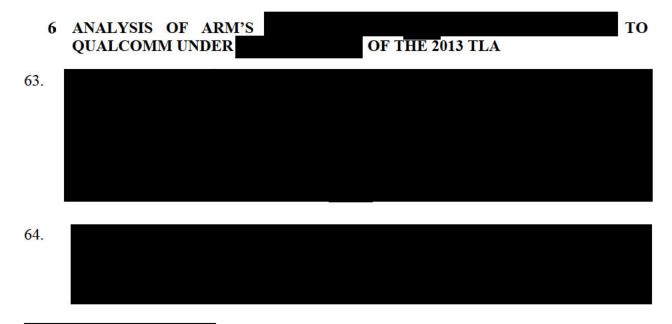
<sup>&</sup>lt;sup>140</sup> Deposition of Ehab Youssef, June 26, 2025, at 34:24-36:6.

<sup>&</sup>lt;sup>141</sup> Deposition of William Abbey, June 26, 2025, at 76:3-19; Deposition of Kurt Wolf, June 25, 2025, at 44:2-5.

<sup>&</sup>lt;sup>142</sup> Kennedy Report, at 5-16. *See also*, Second Amended Complaint, June 3, 2025, at 29; Plaintiffs' Responses and Objections to Defendant's First Set of Interrogatories (Nos. 1-9), March 10, 2025, at 8; Plaintiffs' Supplemental Responses and Objections to Defendant's Second Set of Interrogatories (Nos. 10-13), July 11, 2025, at 19-20. <sup>143</sup> "System Architecture Compliance Suites (ACS)," Arm, date accessed: September 3, 2025 (accessed: https://developer.arm.com/Architectures/Architectural%20Compliance%20Suite); Interview of Dr. Michael Brogioli. According to Jignesh Trivedi, Director of Engineering at Qualcomm, the terms ACS (i.e., Architecture Compliance Suites) and ACK are used interchangeably. Deposition of Jignesh Trivedi, July 9, 2025, at 14:20-15:1. <sup>144</sup> Interview of Dr. Michael Brogioli.



62. I refer to the above collectively as the "Qualcomm SoCs at Issue."



<sup>&</sup>lt;sup>145</sup> I understand that Qualcomm has alleged that Arm interfered with other customers; **Table 4** lists only the Qualcomm products specifically identified in the Kennedy Report's quantification of damages allegedly associated with the claimed interference. *See,* Kennedy Report, at 68-79, Schedules 7.3 and 7.5.

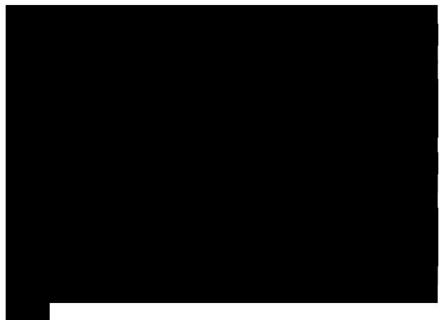
Kennedy Report, at 74.

<sup>&</sup>lt;sup>14</sup> ARMQC 02772366-385.

<sup>148</sup> QCVARM 0524362; QCVARM 0616975-976.

<sup>&</sup>lt;sup>149</sup> See, e.g. QCVARM\_1030726-729, at 726, a September 2024 internal Qualcomm email in which Kurt Wolf of Qualcomm writes an update for M55 slame reply as w , ARM will not consider extending





65. I have been asked to analyze the reasonableness of

66. I understand that certain information have not yet been

<sup>&</sup>lt;sup>151</sup> Arm's First Supplemental Objections and Responses to Qualcomm's Second Set of Interrogatories (Nos. 4-11), July 11, 2025, at 62-63.

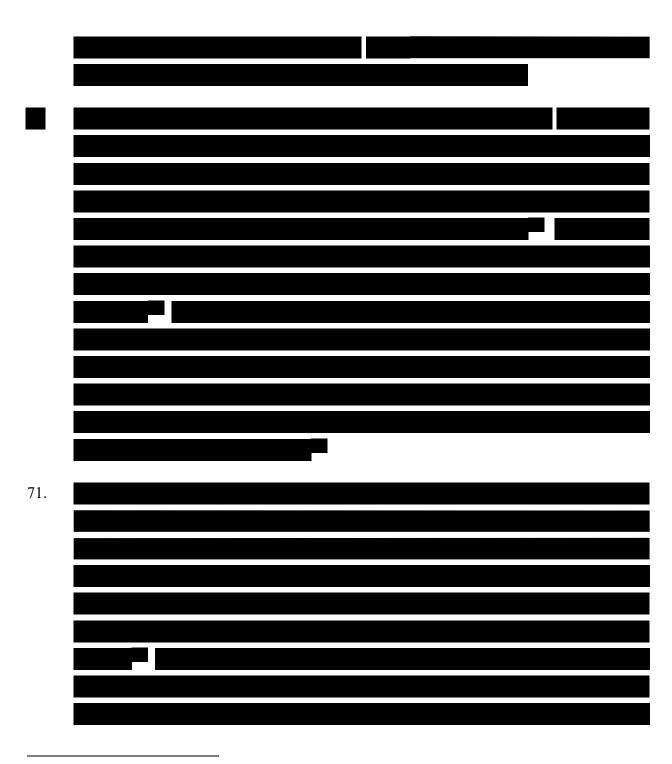
<sup>&</sup>lt;sup>152</sup> QCVARM\_0617829-831.

<sup>&</sup>lt;sup>153</sup> Second Amended Complaint, June 3, 2025, at 52-53.

<sup>154</sup> ARM 00103918-972, at 930.

	produced as of the date of this report due to certain discovery disputes. For example,
	understand Arm
	, which I understand has not yet been produced. As such, my analysis is ongoing
	and I expect to be asked to update my analyses and opinions in the event that additional
	documents and information are produced.
67.	In the sections that follow, I provide: 1) an overview of
	; 2) an overview of Arm's
	; 3) an overview of the evidence available as of the date of
	this report regarding Arm's
	including its " for the
	purposes of ; <sup>155</sup> 4) my independen
	assessment of the evidence available as of the date of this report regarding certain available
	third-party licenses; is and 5) observations regarding the
6.	1 Overview of
68.	

<sup>155</sup> ARM\_00103918-972, at 930. 156 Deposition of Kurt Wolf, June 25, 2025, at Exhibit 4; QCVARM\_0617829-831. 157 QCVARM\_0524362; Deposition of Kurt Wolf, June 25, 2025, at 92:1-25. 158 Deposition of Kurt Wolf, June 25, 2025, at 93:1-4.



<sup>&</sup>lt;sup>159</sup> QCVARM 0604257-259.

<sup>&</sup>lt;sup>160</sup> Deposition of Kurt Wolf, June 25, 2025, at 41:5-11.

Deposition of Kurt Wolf, June 25, 2025, at 41:5-42:22. *See also*, Deposition of Gerard Williams, June 25, 2025, at 49:13-51:10 where he testifies that

<sup>&</sup>lt;sup>162</sup> Deposition of Kurt Wolf, June 25, 2025 at 75:2-76:17, 81:8-17, 86:4-19. *See also*, QCVARM\_0605055-062.

<sup>&</sup>lt;sup>163</sup> Interview of Akshay Bhatnagar, Karthik Shivashankar, and Ehab Youssef; Interview of Mr. Jeffrey Fonseca. *See also*, Arm's First Supplemental Objections and Responses to Qualcomm's Second Set of Interrogatories (Nos. 4-11), July 11, 2025, at 59-60. *See also*, Deposition of William Abbey, June 26, 2025, at 66:15-67:9.

72.	I understand Arm alleges that, despite the ambiguity of	, Arm acted in
, 2.		, i i i i i i i i i i i i i i i i i i i
	good faith and	
	I understand that Arm personnel	
		.167 I
	understand that, because Qualcomm failed to provide guidance to	Arm of its intended uses
		7 mm of its intended uses
	of ,	
	168	
		.169
73.	Next, I provide an overview of	. I then provide an
	overview of the available evidence regarding Arm's	
6	.2 Overview of Arm's	
Ū		
74.	Arm's	

Interview of Akshay

Bhatnagar, Karthik Shivashankar, and Ehab Youssef.

 $<sup>^{164}</sup>$  I understand that the negotiation process for the 2019 licensing deal with Qualcomm

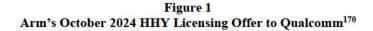
<sup>165</sup> Interview of Akshay Bhatnagar, Karthik Shivashankar, and Ehab Youssef; Interview of Mr. Jeffrey Fonseca.

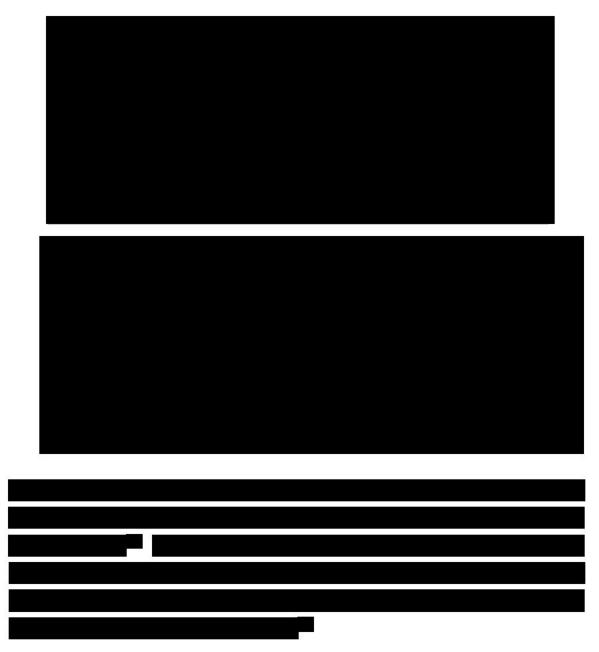
<sup>&</sup>lt;sup>166</sup> Arm's First Supplemental Objections and Responses to Qualcomm's Second Set of Interrogatories (Nos. 4-11), July 11, 2025, at 59.

<sup>&</sup>lt;sup>167</sup> Interview of Akshay Bhatnagar, Karthik Shivashankar, and Ehab Youssef.

<sup>&</sup>lt;sup>168</sup> Interview of Akshay Bhatnagar, Karthik Shivashankar, and Ehab Youssef.

<sup>&</sup>lt;sup>169</sup> Deposition of Kurt Wolf, June 25, 2025, at Exhibit 4; QCVARM\_0617829-831; Interview of Mr. Jeffrey Fonseca.





76. In addition to the above-listed fees and royalty rates, the offer's general terms listed, among other things: 173

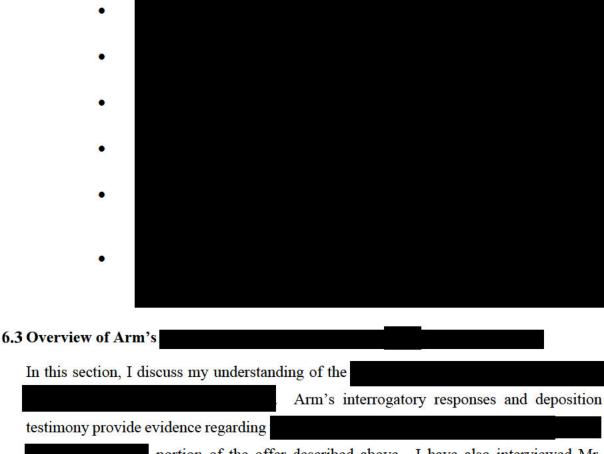
75.

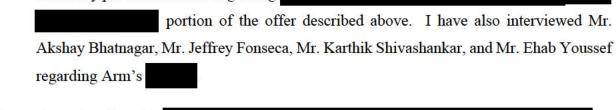
<sup>170</sup> QCVARM 0616967-969, at 968.

<sup>171</sup> Interview of Akshay Bhatnagar, Karthik Shivashankar, and Ehab Youssef.

<sup>172</sup> Interview of Akshay Bhatnagar, Karthik Shivashankar, and Ehab Youssef.

<sup>173</sup> QCVARM\_0616967-969, at 969.









77.

<sup>&</sup>lt;sup>174</sup> Arm's First Supplemental Objections and Responses to Qualcomm's Second Set of Interrogatories (Nos. 4-11), July 11, 2025, at 59-60. *See also*, Deposition of Karthik Shivashankar, June 20, 2025, at 63:12-24, 67:12-20, 82:10-83:2; 85:9-86:10. *See also*, Deposition of William Abbey, June 26, 2025, at 65:13-68:1

<sup>&</sup>lt;sup>175</sup> ARMQC 02779314-363, at 314, 347; ARMQC 02774844-855, at 844; and ARMQC 02774816-817.

<sup>&</sup>lt;sup>176</sup> ARMQC 02779483-500, at 483; ARMQC 02774738-747, at 738, 746.





RESTRICTED - OUTSIDE ATTORNEYS' EYES ONLY

https://s204.q4cdn.com/645488518/files/doc financials/2024/q4/QCOM-09-29-24-FY2024-10-K.pdf), at 10-13.

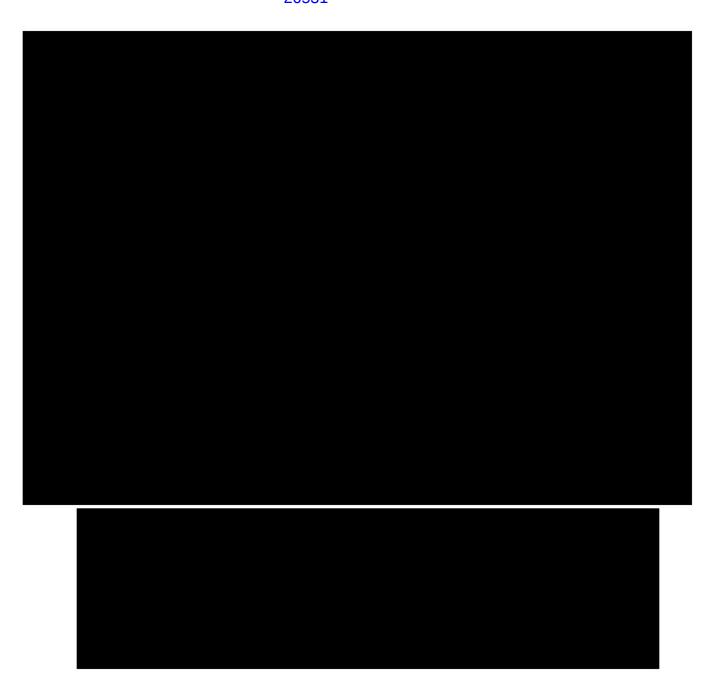
<sup>18</sup> 

<sup>&</sup>lt;sup>188</sup> Interview of Akshay Bhatnagar, Karthik Shivashankar, and Ehab Youssef. *See also*, Deposition of Ehab Youssef, June 26, 2025, at 68:6-71:7; Arm's First Supplemental Objections and Responses to Qualcomm's Second Set of Interrogatories (Nos. 4-11), July 11, 2025, at 59-60.

<sup>&</sup>lt;sup>189</sup> Interview of Akshay Bhatnagar, Karthik Shivashankar, and Ehab Youssef. *See also*, ARMQC\_02779314-363, at 347; ARMQC\_02774816-817; ARMQC\_02783967-084, at 971-976; QCVARM\_0616967-969.

<sup>&</sup>lt;sup>190</sup> Interview of Akshay Bhatnagar, Karthik Shivashankar, and Ehab Youssef. "2024 Business Report for the year ended December 31, 2024," Samsung Electronics Co., Ltd., date accessed: September 1, 2025 (accessed: https://images.samsung.com/is/content/samsung/assets/global/ir/docs/2024\_4Q\_Interim\_Report.pdf), at 4-5; "System Processors," Qualcomm, date accessed: August 29, 2025 (accessed:

https://www.qualcomm.com/products/system-processors); Qualcomm describes its QCT Segment as "a leading developer and supplier of integrated circuits products and system software with advanced connectivity and high-performance, low-power computing technologies, for use in mobile devices; automotive systems for connectivity, digital cockpit and ADAS/AD; and IoT including consumer electronic devices, industrial devices and edge networking products." In addition to its QCT segment, Qualcomm also operates a technology licensing segment and a strategic investments (Qualcomm Ventures) segment. Qualcomm Incorporated Form 10-k for the fiscal year ended September 29, 2024, date accessed: September 1, 2025 (accessed:



Interview of Akshay Bhatnagar, Karthik

Shivashankar, and Ehab Youssef.

<sup>&</sup>lt;sup>191</sup> Interview of Akshay Bhatnagar, Karthik Shivashankar, and Ehab Youssef; Arm's First Supplemental Objections and Responses to Qualcomm's Second Set of Interrogatories (Nos. 4-11), July 11, 2025, at 59-60.

<sup>&</sup>lt;sup>192</sup> Interview of Akshay Bhatnagar, Karthik Shivashankar, and Ehab Youssef; Arm's First Supplemental Objections and Responses to Qualcomm's Second Set of Interrogatories (Nos. 4-11), July 11, 2025, at 59-60.

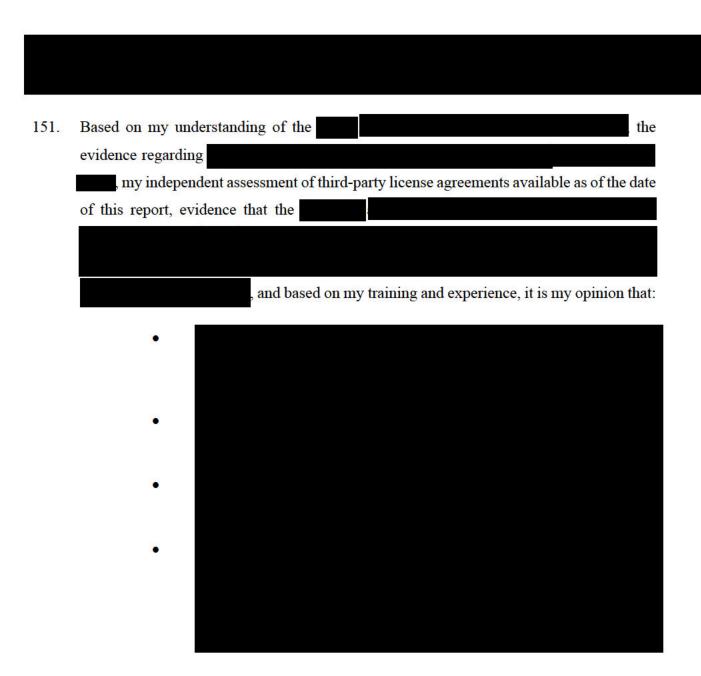
<sup>&</sup>lt;sup>193</sup> Deposition of Ehab Youssef, June 26, 2025, at 71:15-72:3. See also, Shivashankar, at 97:18-98:2.

of the 2013 TLA does not require consideration of

<sup>195</sup> Interview of Akshay Bhatnagar, Karthik Shivashankar, and Ehab Youssef.

79.	I understand that it is Arm's position that the	
		. <sup>196</sup> I further
	understand that Arm contends that	
6	6.4 Evaluation of Third Party TLA Licenses Available as of the Date of This	s Report
80.	As described above,	
	Qualcomm:	~
and R	terview of Akshay Bhatnagar, Karthik Shivashankar, and Ehab Youssef; Arm's First Supplement Responses to Qualcomm's Second Set of Interrogatories (Nos. 4-11), July 11, 2025, at 60-61, De Youssef, June 26, 2025, at 68:13-69:23, 71:15-25.	

Page 38 of 112
RESTRICTED - OUTSIDE ATTORNEYS' EYES ONLY



152. In the event additional information is produced, I intend to supplement or update my analysis upon receipt of this information.

## 7 RESPONSE TO THE KENNEDY REPORT

153. As an initial matter, I note certain analyses that are absent from the Kennedy Report. First, the Kennedy Report made no attempt to quantify Qualcomm's alleged present "harm" due

	to Arm's .390 Although Qualcomm declined to accept
	, as noted above, Qualcomm has had a license to
	91 Therefore, Qualcomm has to continue to use
	those IPs, to the extent it so chooses.
	.392 This evidence, as well as the
	Kennedy Report's lack of quantification, calls into question the extent to which Qualcomm has indeed suffered any actual harm to date as a result of Arm's  .
155.	With respect to analyses that are put forward in the Kennedy Report, I have been asked to respond to 1) the Kennedy Report's comparison of
	relative to certain benchmarks;
	2) the Kennedy Report's estimate of Qualcomm's damages associated with alleged

overpayment of license fees for the Peripheral IP at issue, including the Kennedy Report's

analysis of a "but-for" price; 3) the Kennedy Report's estimate of Qualcomm's damages

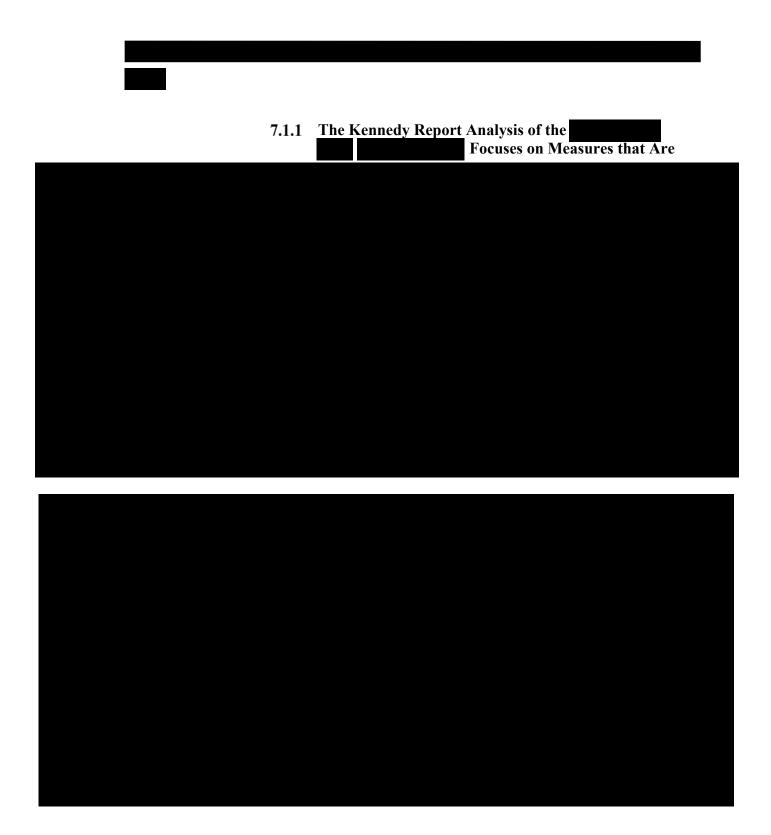
<sup>&</sup>lt;sup>390</sup> See generally, Kennedy Report. <sup>391</sup> ARMQC\_02772366-385, at 366-367.

<sup>&</sup>lt;sup>392</sup> Deposition of Kurt Wolf, June 25, 2025, at 41:5-42:22, 75:2-76:17, 81:8-17, 86:4-19; Deposition of Gerard Williams, June 25, 2025, at 46:18-51:10.

<sup>&</sup>lt;sup>393</sup> See generally, Kennedy Report.

<sup>&</sup>lt;sup>394</sup> Kennedy Report, at 47-48.

	associated with Arm's alleged interference with Qualcomm's prospective economic
	advantage; and 4) the Kennedy Report's quantification of
	o a) evidence regarding the harm Qualcomm alleges it suffered under the
	alleged ALA and TLA breaches and, b) the amount of support and maintenance fees paid
	by Qualcomm under the terms of the ALA.
<b>7.</b> 1	The Kennedy Report's Comparison of Arm's Certain Benchmarks
156.	As described throughout this report, Qualcomm alleges that
157.	The Kennedy Report compares
	. As described in the
	sections that follow, I understand that the first two comparisons are not relevant under the terms of the allegedly breached section of the TLA.
158.	The Kennedy Report's observations under the third comparison are misleading and
	incomplete even with respect to the third-party agreements that have been produced as of
	the date of this report. The Kennedy Report asserts that an analysis of third-party
	agreements is not possible with the available information. However, as demonstrated
	above, it is possible to identify relevant terms and
	. Therefore, the Kennedy Report's failure to
	adequately analyze the "," including the failure to address
	certain obvious issues altogether, further underscores the Kennedy Report's failure to
	demonstrate that the

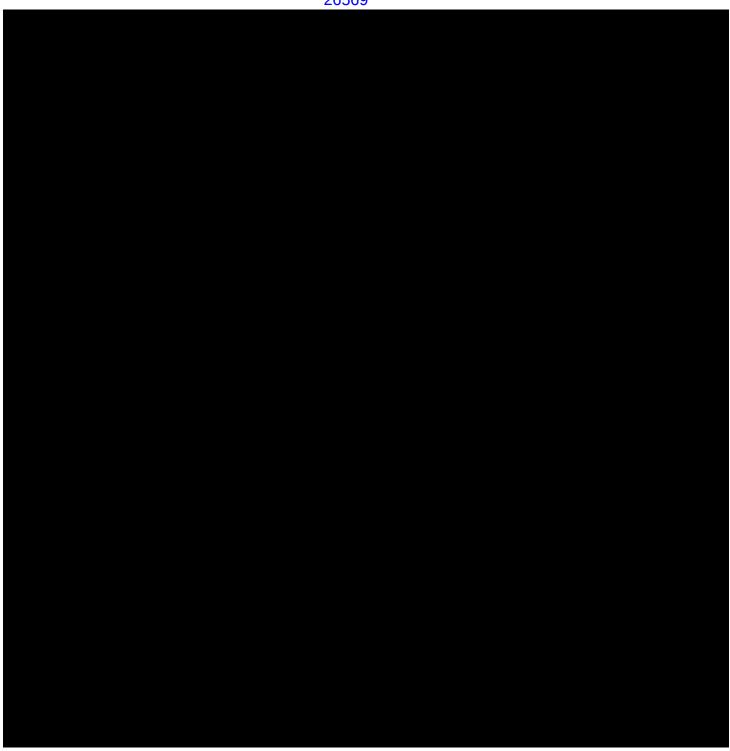


 <sup>395</sup> ARM\_00103918-972, at 930.
 396 Deposition of Jonathan Weiser, July 11, 2025, at 181:2-182:17.

<sup>&</sup>lt;sup>397</sup> Interview of Akshay Bhatnagar, Karthik Shivashankar, and Ehab Youssef.



Page 74 of 112
RESTRICTED - OUTSIDE ATTORNEYS' EYES ONLY



<sup>&</sup>lt;sup>401</sup> Kennedy Report, at 25-26.

<sup>402</sup> Kennedy Report, at footnote 131.

<sup>&</sup>lt;sup>403</sup> Deposition of Karthik Shivashankar, June 20, 2025, at 47:18-21, testifying that

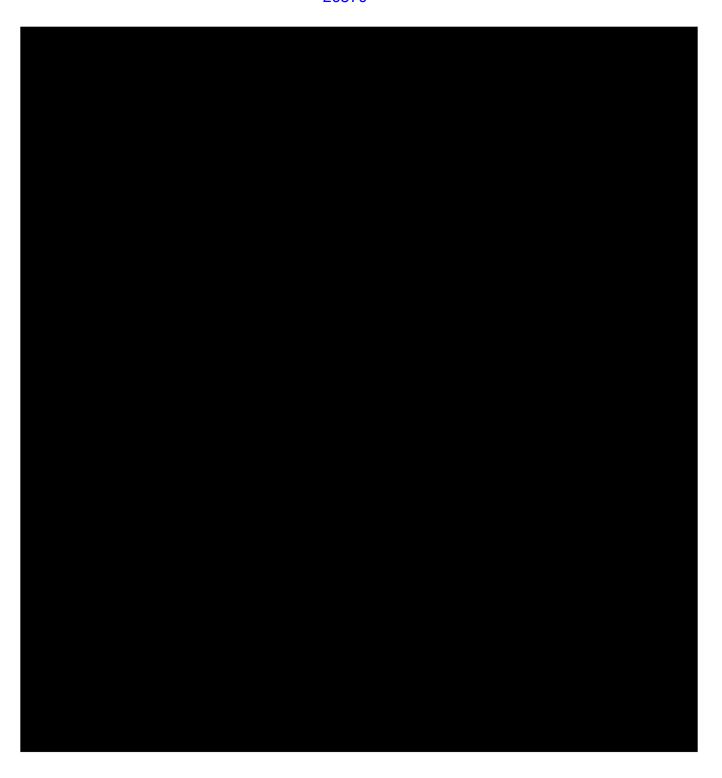
<sup>&</sup>lt;sup>404</sup> Interview of Akshay Bhatnagar, Karthik Shivashankar, and Ehab Youssef.

<sup>&</sup>lt;sup>405</sup> Kennedy Report, at 25 and footnote 131, citing ARMQC\_02784199-203 at 202.

<sup>&</sup>lt;sup>406</sup> ARMQC 02784199-203 at 202.

<sup>&</sup>lt;sup>407</sup> Kennedy Report, at 26 and footnote, citing ARMQC\_02747567-569 at 568.

<sup>&</sup>lt;sup>408</sup> Kennedy Report at 25.



 $<sup>^{409}</sup>$  Kennedy Report, at Figure 9.

<sup>410</sup> See Kennedy Report, at footnote 158.

<sup>411</sup> 

<sup>&</sup>lt;sup>412</sup> See ATTACHMENT 8.0. See also, Kennedy Report, at Schedule 4.1. Total license fees have been divided by the respective term to reflect average annual license fees. See also, ARMQC\_02784120-198, at 132.

## 7.1.2 The Kennedy Report Analysis of Third-Party TLA Agreements Is Incomplete

167.	The Kennedy Report describes its assignment regarding third party TLA agreements as
	follows: "I have been asked by Qualcomm's counsel to assess Arm's claims discussed
	above regarding its
168.	The Kennedy Report acknowledges that it is not possible to evaluate the second and third
	claims as the agreement has not been produced. It then argues that it is not
	possible to evaluate whether
	, as Arm has not produced all such agreements. 416 As discussed in
	Section 6.5 above,
	In the event that more agreements become available, I will update my analyses and
	opinions accordingly.



<sup>&</sup>lt;sup>415</sup> Kennedy Report, at 37-38.

<sup>&</sup>lt;sup>416</sup> Kennedy Report, at 38.

169.	The Kennedy Report then offers "observations of royalty rates included in Arm's
	agreements with other third parties that have been produced" and concludes that these
	observations indicate
	Despite evidence that Qualcomm's own
	witness acknowledged the TLA
	, <sup>419</sup> the Kennedy Report analysis focuses exclusively on a comparison of royalty rates,
	and does not include a full analysis of "
	422
170.	While the Kennedy Report lists some basic information
	pointing to incomplete
	production. <sup>423</sup> However, my own analysis in <b>Sections 6.4 and 6.5</b> demonstrates that a
	more fulsome analysis based on the available information is in fact possible.

<sup>&</sup>lt;sup>417</sup> Kennedy Report, at 40. <sup>418</sup> Kennedy Report, at 42.

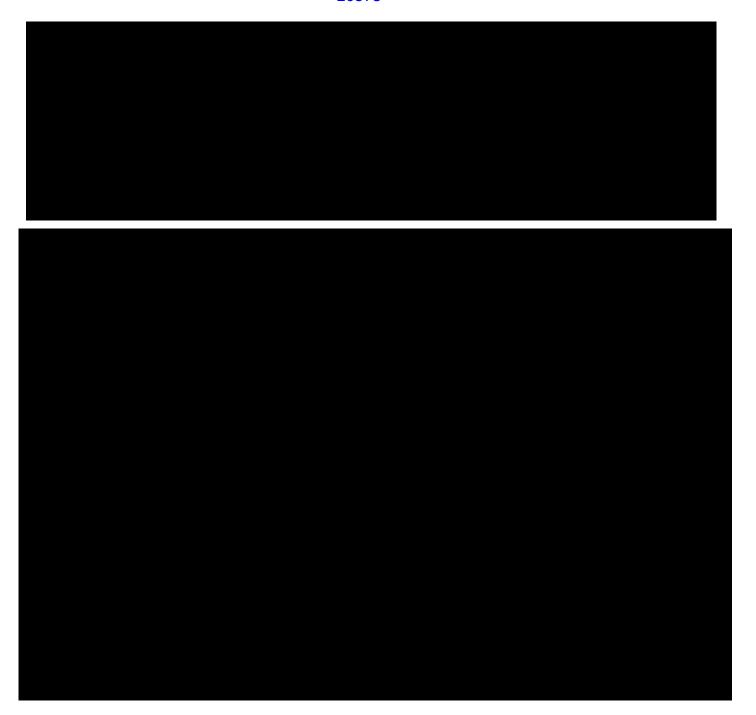
<sup>&</sup>lt;sup>419</sup> Deposition of Jonathan Weiser, July 11, 2025, at 84:5-85:10.

<sup>&</sup>lt;sup>420</sup> ARM\_00103918-972, at 926-930.

<sup>&</sup>lt;sup>421</sup> ARM 00103918-972, at 930.

<sup>&</sup>lt;sup>423</sup> Kennedy Report, at 40.

<sup>&</sup>lt;sup>424</sup> Kennedy Report, at 45.



- 173. As such, the Kennedy Report analysis of third-party agreements is incomplete.
- 174. Based on the above, it is my opinion that the Kennedy Report (while recognizing its own analysis to be incomplete) fails to show that the

<sup>&</sup>lt;sup>425</sup> Kennedy Report, at 45.

<sup>&</sup>lt;sup>426</sup> ARM\_00103918-972, at 930.

175. To the extent Mr. Kennedy attempts to address these clear gaps in the analysis, I reserve the right to supplement my opinions.

## 7.2 The Kennedy Report's Analysis of Alleged Overpayment for Peripheral IP Licenses

176. The Kennedy Report calculates damages related to Arm's alleged breach of the implied covenant of good faith and fair dealing related to the TLA as the amount that Qualcomm allegedly overpaid for its license to the Peripheral IP at Issue.<sup>427</sup> As discussed above, I understand the parties dispute whether this is an issue presently in the case. I nonetheless address it here in the event the Court determines it is an issue for trial.

177.	The Kennedy Report calculates the amount of alleged overpayment as the difference
	between the price offered by Arm in (which Qualcomm agreed to in
	and paid in but now asserts was made in "bad faith" and was
	"commercially unreasonable", and a "but-for" price. The Kennedy Report opines that
	the but-for price for each of the Peripheral IPs at Issue would have been

178.	In the alternative, the Kennedy Report uses a but-for price equal to that in Arm's
	(which Qualcomm accepted in principle but asked Arm to modify
	the scope of licensed IP). <sup>433</sup>

<sup>&</sup>lt;sup>427</sup> Kennedy Report, at 45-46.

<sup>&</sup>lt;sup>428</sup> Kennedy Report, at 54; QCVARM 0523650-652, at 652; QCVARM 1121930-931.

<sup>&</sup>lt;sup>429</sup> Kennedy Report, at 63; Plaintiffs' Responses and Objections to Defendant's Third Set of Interrogatories (Nos. 14-24), July 11, 2025, at 10-11.

<sup>&</sup>lt;sup>430</sup> Kennedy Report, at 63-67.

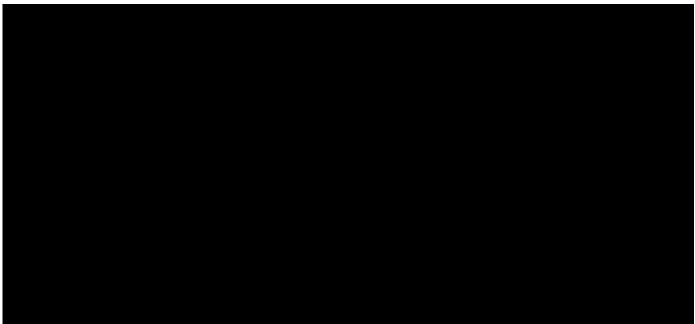
<sup>&</sup>lt;sup>431</sup> Kennedy Report, at 66.

<sup>&</sup>lt;sup>432</sup> Kennedy Report, at 66.

<sup>&</sup>lt;sup>433</sup> QCVARM 0616967-969; QCVARM 0618354.

<sup>&</sup>lt;sup>434</sup> Kennedy Report, at 67.

179.	As described further in the sections that follow, the Kennedy Report fails to show from a
	, and the Kennedy
	Report's quantification of the alleged overpayment for Peripheral IP licenses relies upon a
	but-for price that is not supported by the available evidence. Further, Qualcomm's own
	acceptance of the Peripheral IP license with no objection or negotiation is an indication of
	commercial reasonableness. Taken together, these shortcomings indicate the Kennedy
	Report's estimate of the alleged overpayment is speculative and should be set aside.



**Qualcomm's Acceptance of the Peripheral IP License Is** an Indication of Commercial Reasonableness

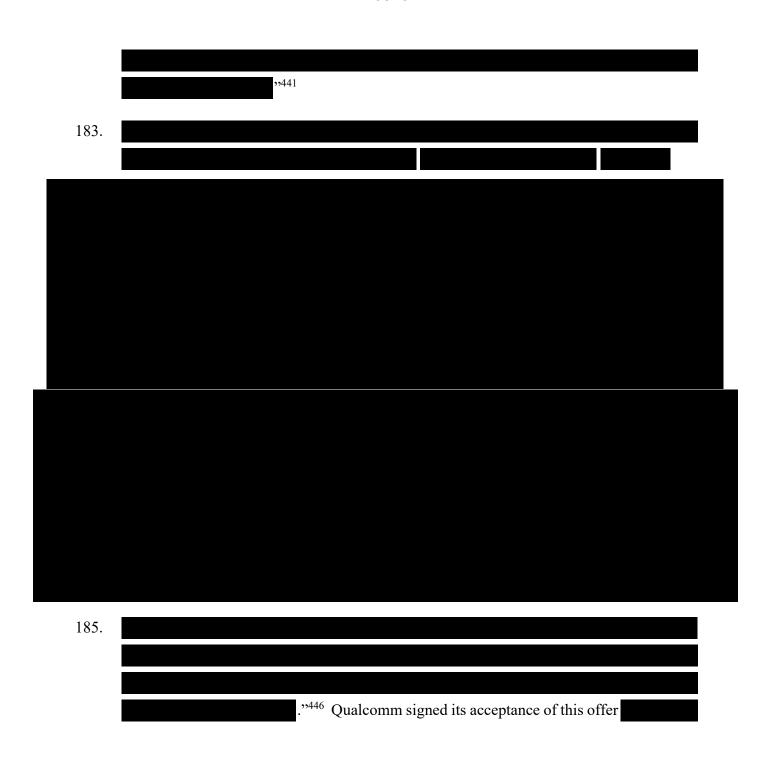
182.	

<sup>&</sup>lt;sup>435</sup> ARM\_00103918-972, at 931. <sup>436</sup> Kennedy Report, at 48.

<sup>&</sup>lt;sup>437</sup> QCVARM\_0608131-138, at 133-134.

<sup>438</sup> QCVARM\_0613037-039, at 037. 439 QCVARM\_0616935.

<sup>&</sup>lt;sup>440</sup> QCVARM 0616967-969.



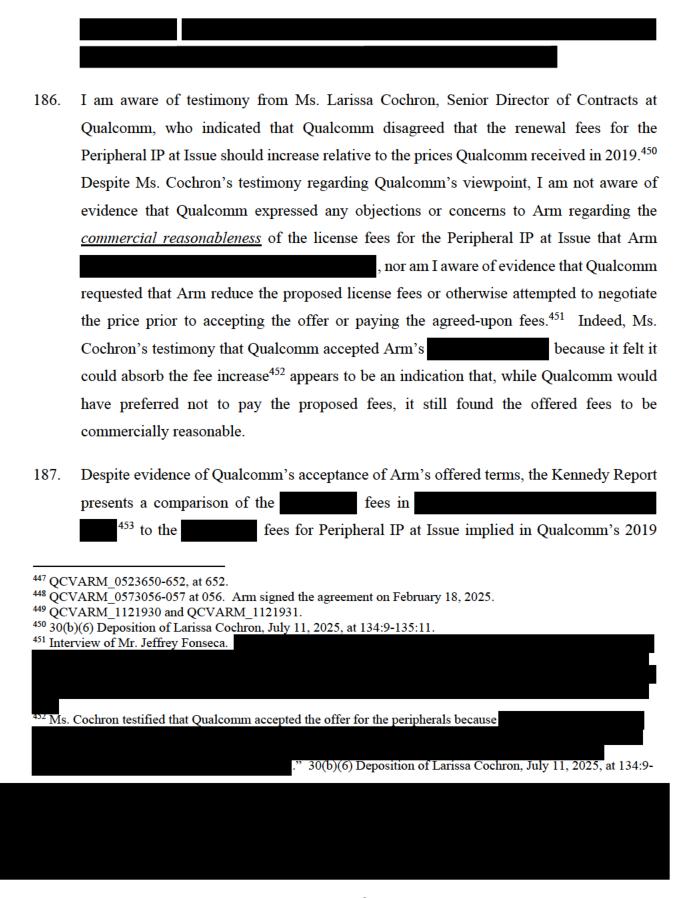
<sup>&</sup>lt;sup>441</sup> QCVARM\_0616967-969, at 969. <sup>442</sup> QCVARM\_0618354.

<sup>&</sup>lt;sup>443</sup> QCVARM\_0605055-062, at 057-058.

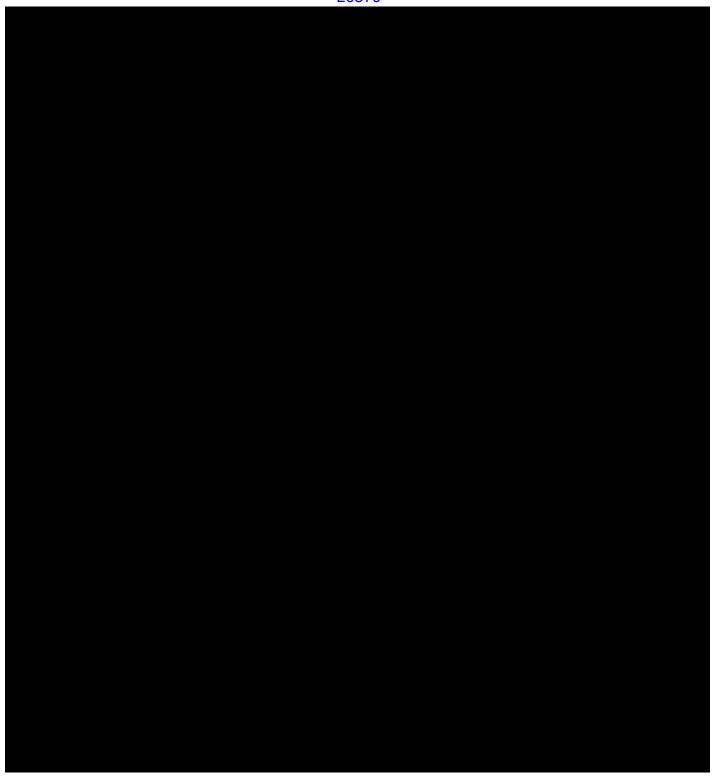
<sup>444</sup> Deposition of Kurt Wolf, June 25, 2025 at 75:2-76:17,

<sup>&</sup>lt;sup>445</sup> QCVARM\_0523650-652.

<sup>&</sup>lt;sup>446</sup> QCVARM\_0527544-548, at 544.



it is entitled to the same prices, and makes no request that the offer be revised to inc the same prices. <sup>455</sup> As s	As sucthe Kennedy Report's comparisons to the "actual" fees paid by Qualcomm in 2019 are no	it is entitled to the same prices, and makes no request that the offer be revised to include the same prices. 455  As such the Kennedy Report's comparisons to the "actual" fees paid by Qualcomm in 2019 are to as informative to the commercial reasonableness of Arm's	it is entitled to the same prices, and makes no request that the offer be revised to incluthe same prices. 455  As sut the Kennedy Report's comparisons to the "actual" fees paid by Qualcomm in 2019 are as informative to the commercial reasonableness of Arm's		
the same prices. 455  As so the Kennedy Report's comparisons to the "actual" fees paid by Qualcomm in 2019 are	As such the Kennedy Report's comparisons to the "actual" fees paid by Qualcomm in 2019 are not as informative to the commercial reasonableness of Arm's	the same prices. 455  As such the Kennedy Report's comparisons to the "actual" fees paid by Qualcomm in 2019 are to as informative to the commercial reasonableness of Arm's	As surthe Kennedy Report's comparisons to the "actual" fees paid by Qualcomm in 2019 are as informative to the commercial reasonableness of Arm's	it is entitled to the same prices, and makes no request that the of	fer be revised to include
As so the Kennedy Report's comparisons to the "actual" fees paid by Qualcomm in 2019 are	As such the Kennedy Report's comparisons to the "actual" fees paid by Qualcomm in 2019 are not as informative to the commercial reasonableness of Arm's	As such the Kennedy Report's comparisons to the "actual" fees paid by Qualcomm in 2019 are not as informative to the commercial reasonableness of Arm's	As surthe Kennedy Report's comparisons to the "actual" fees paid by Qualcomm in 2019 are as informative to the commercial reasonableness of Arm's		
the Kennedy Report's comparisons to the "actual" fees paid by Qualcomm in 2019 are	the Kennedy Report's comparisons to the "actual" fees paid by Qualcomm in 2019 are n as informative to the commercial reasonableness of Arm's	the Kennedy Report's comparisons to the "actual" fees paid by Qualcomm in 2019 are as informative to the commercial reasonableness of Arm's	the Kennedy Report's comparisons to the "actual" fees paid by Qualcomm in 2019 are as informative to the commercial reasonableness of Arm's	the same prices. <sup>455</sup>	
the Kennedy Report's comparisons to the "actual" fees paid by Qualcomm in 2019 are	the Kennedy Report's comparisons to the "actual" fees paid by Qualcomm in 2019 are n as informative to the commercial reasonableness of Arm's	the Kennedy Report's comparisons to the "actual" fees paid by Qualcomm in 2019 are as informative to the commercial reasonableness of Arm's	the Kennedy Report's comparisons to the "actual" fees paid by Qualcomm in 2019 are as informative to the commercial reasonableness of Arm's		
the Kennedy Report's comparisons to the "actual" fees paid by Qualcomm in 2019 are	the Kennedy Report's comparisons to the "actual" fees paid by Qualcomm in 2019 are not as informative to the commercial reasonableness of Arm's	the Kennedy Report's comparisons to the "actual" fees paid by Qualcomm in 2019 are as informative to the commercial reasonableness of Arm's	the Kennedy Report's comparisons to the "actual" fees paid by Qualcomm in 2019 are as informative to the commercial reasonableness of Arm's		
<u> </u>	as informative to the commercial reasonableness of Arm's	as informative to the commercial reasonableness of Arm's	as informative to the commercial reasonableness of Arm's		As suc
as informative to the commercial reasonableness of Arm's				the Kennedy Report's comparisons to the "actual" fees paid by Qu	ualcomm in 2019 are n
	as is Qualcomm's actual acceptance of the higher prices.	as is Qualcomm's actual acceptance of the higher prices.	as is Qualcomm's actual acceptance of the higher prices.	as informative to the commercial reasonableness of Arm's	
as is Qualcomm's actual acceptance of the higher prices.				as is Qualcomm's actual acceptance of the higher prices.	



<sup>&</sup>lt;sup>458</sup> See ATTACHMENT 9.0; Kennedy Report, at Schedule 3.4. Total license fees have been divided by the respective term to reflect average annual fee and have been adjusted for selling and marketing. See also, ARMQC\_02784120-198, at 132. 459 Kennedy Report, at 64.

<sup>&</sup>lt;sup>460</sup> Interview of Akshay Bhatnagar, Karthik Shivashankar, and Ehab Youssef.

## 7.2.2 The Kennedy Report's But-For Price is Not Supported by the Available Evidence

190.	Despite evidence regarding Qualcomm's acceptance of the Peripheral IP license in
	and the lack of evidence that Qualcomm objected to or attempted to
	negotiate the offered prices before signing the agreement, the Kennedy Report offers
	damages calculations assuming Qualcomm overpaid for Peripheral IP under the
191.	The Kennedy Report does not appear to offer its own opinion that Arm's licensing offers
	for Peripheral IP were "commercially unreasonable and made in bad faith," but rather
	references Qualcomm's allegations in that regard. The Kennedy Report does not offer
	an analysis of what the threshold price for a "commercially reasonable" offer would be
	nor does it define precisely what a "good faith" offer would entail or why an offer at a price
	higher than that previously paid by Qualcomm must necessarily be considered "bad faith'
	- a particularly relevant inquiry in light of my understanding that the terms of the TLA as
	they relate to Peripheral IP do not preclude price increases or require certain

<sup>&</sup>lt;sup>461</sup> QCVARM\_0616967-969, at 967; QCVARM\_0618354; and QCVARM\_0523650-652, at 650, 652.

<sup>462</sup> Kennedy Report, at 63-67.

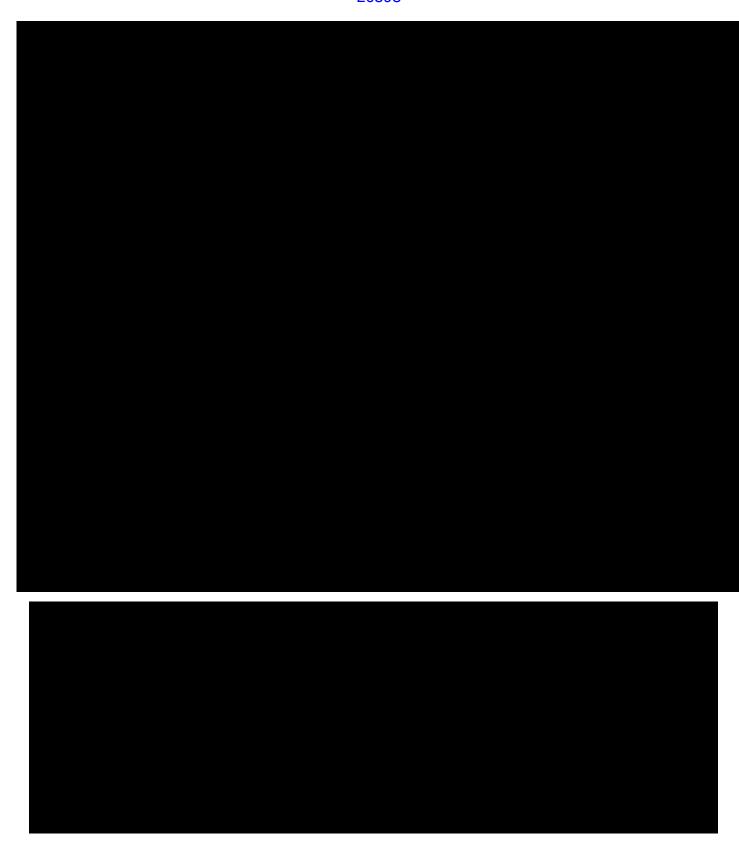
<sup>463</sup> Kennedy Report, at 64.

<sup>&</sup>lt;sup>464</sup> Kennedy Report, at Section V.D.i.a.

93.	Additionally, the Kennedy Report provides no reasonableness checks or additional data points in support of its calculation of but-for prices. Rather, the Kennedy Report asserts that 1) Arm would have licensed at the same time (resulting in a broader scope of licensed IP) had the offered rates been "fair and reasonable" and that 2) the "full scope of Qualcomm's actual licensing with Arm" including evidence that Qualcomm is one of Arm's "major" customers would have entitled Qualcomm to the same in 2025 as it received in 2019. 467
94.	In light of the above, the Kennedy Report's analysis of the "but-for" price for Peripheral IP is unsupported and should be set aside.
94. 7.2	
	IP is unsupported and should be set aside.

The fact that Qualcomm now claims in hindsight several million dollars in damages for an offer that it accepted and paid undermines the notion that it was "harmed" or suffered "damages" as a result of Arm's offer. This evidence, combined with my understanding that it is \_\_\_\_\_\_\_, indicates that the prices Qualcomm paid for the Peripheral IP at Issue were reasonable. In the event the trier-of-fact agrees, damages under this cause of action are zero.



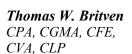


<sup>&</sup>lt;sup>525</sup> Deposition of Cristiano Amon, July 3, 2025, at 77:11-78:24.

<sup>526</sup> Kennedy Report, at 79. 527 **ATTACHMENT 7.0.** 

<sup>&</sup>lt;sup>528</sup> Kennedy Report, at 15-17, 19-22.





# HK)A

# **Professional Credentials**

**ATTACHMENT 1.0** 

Thomas Britven is a Partner at HKA Global LLC, and former President of ASQ Consulting, a leading provider of independent financial and advisory services.

### **Testimony**

- Deloitte Consulting, LLP and Deloitte Development, LLC v. Sagitec Solutions, LLC; Case No. 23-325-WCB; United States District Court for the District of Delaware; 2025.
- Biohaven Therapeutics Ltd. and Yale University v. Avilar Therapeutics, Inc. and RA Capital Management GP, LLC; C.A. No. 23-cv-328-JLH-CJB; United States District Court for the District of Delaware, 2025.
- Oil States Energy Services, LLC v. Worldwide Machine, Inc.; Civil Action No. 4:23-cv-00557; Deposition before the Southern District of Texas, Houston Division, 2024.
- State Farm Mutual Automobile Insurance Co. v. Amazon.com, Inc. and Amazon.com Services LLC; Case No. 1:22-01447-CJB; Deposition before the District of Delaware, Wilmington Division, 2024.
- Hutchinson Technology Incorporated v. Suncall Corporation; Case No. 21-cv-02618 SRN-TNL; Deposition before the United States District Court for the District of Minnesota, 2024.
- *Mednet Solutions, Inc. v. Eric Jacobson, and Veeva Systems, Inc.*; Case No. 0:20-cv-02502 DSD-JFD; Deposition before the District Court of Minnesota, 2024.
- Walter Kidde Portable Equipment Inc. v. First Alert, Inc., BRK Brands, Inc.; Case No. 6:22-cv-00566; Deposition before the Western District of Texas, Waco Division, 2023.
- Onpoint Systems, LLC v. Protect Animals with Satellites, LLC; C.A. No. 20-657; Deposition before the Eastern District of Texas, Sherman Division, 2023.
- Lindt & Sprungli (North America) Inc., Lindt & Sprungli (USA), Inc., Ghirardelli Chocolate Company and Russell Stover Chocolates, LLC v. GXO Warehouse Company, Inc. f/k/a XPO Logistics Supply Chain; Case No. 4:22-cv-00384; Deposition (2023) and trial (2024) before the Western District of Missouri, Western Division.
- Omnitracs, LLC and XRS Corporation v. Platform Science, Inc.; Case No. 3:20-cv-0958-CAB-MDD, Deposition (2023) and trial (2024) before the Southern District of California.
- Unisys Corporation v. Leon Gilbert, Michael McGarvey, Atos SE and Atos IT Solutions and Services, Inc., Case No. 2:23-cv-00555-PD, Deposition before the Eastern District of Pennsylvania, 2023.

Thomas W. Britven
Page 2

# Testimony (continued)

- Inovalon Insights, LLC v. Komodo Health, Inc.; Case No. 01-22-002-3064; Arbitration before the American Arbitration Association, 2023.
- Carrum Technologies, LLC v. Ford Motor Company, Case No. 18-1647-RGA; Deposition before the United States District Court for the District of Delaware; 2023.
- J.S.T. Corporation v. Robert Bosch LLC, f/k/a Robert Bosch Corporation, Robert Bosch GmbH, and Bosch Automotive Products (Suzhou) Co., Ltd.; Case No. 2:15-cv-13842-AC-EAS; Deposition before the United States District Court for the Eastern District of Michigan, Southern Division; 2022.
- Epistar Corporation v. Lowe's Companies, Inc., Lowe's Home Centers, LLC; Case No. 6:20-cv-00420-ADA; Deposition before the United States District Court for the Western District of Texas, Waco Division; 2022 and 2024.
- RiseandShine Corporation d/b/a Rise Brewing v. Pepsico, Inc.; Case No. 1:21-cv-3198; Deposition before the United States District Court for the Northern District of Illinois; Eastern Division; 2022.
- Taiwan Semiconductor Manufacturing Co. v. Silicon Storage Technology Inc.; Case No. 01-21-0002-5445; Deposition and Testimony in arbitration before The American Arbitration Association; 2022.
- Camac Fund LP v. W. Heath Hawk, Vasileios Sfyris, and Benjamin Thomas Wiler; Case No. 1440007256; Testimony in arbitration before Judicial Arbitration and Mediation Services, Inc. (JAMS); 2022.
- *Allrounds, Inc. v. eShares, Inc. et al.*; Case No. 3:20-cv-07083-VC; Deposition before the Northern District of California, 2022.
- Koss Corporation v. Apple Inc.; Case No. 6:20-cv-00665-ADA; Deposition before the Western District of Texas; 2022.
- Kraft Heinz Foods Company v. Capri Sun Group Holding AG, Capri Sun GMBH, Indag Pouch Partners GMBH, and Rudolf Wild GMBH & Co. KG; Arbitration in The International Centre for Dispute Resolution; ICDR Case No. 01-20-0001-7551, 2022.
- Magema Technology LLC v. Phillips 66, Phillips 66 Company and WRB Refining LP; Case No. 4:20-cv-02444; Deposition and trial before the Southern District of Texas, Houston Division, 2022, 2023.
- The Chamberlain Group Inc. v. Overhead Door Corporation; Case No. 2:21-cv-0084-JRG; Deposition and trial before the Eastern District of Texas, 2021, 2022 and 2023.
- Kimberly-Clark Corporation and Kimberly-Clark Global Sales, LLC v. Extrusion Group, LLC; Extrusion Group Services LLC; EG Global, LLC; EG Ventures, LLC; Michael Houston; and Michael Cook; Case No. 1:18-cv-04754-SDG; Deposition before the Northern District of Georgia, 2021.
- Precision Medicine Group, LLC, Precision Advisors Group, Inc. and Precision Medicine Group Holdings, Inc. v. Blue Matter, LLC, Naina Ahmad, Jose Jauregui, and Mridul Malhotra; Case No. 1:20-cv-02974 (PGG); Deposition before the Southern District of New York, 2021.

Thomas W. Britven
Page 3

# Testimony (continued)

- Aspen Energy Partners, LLC and Rigminder, Inc. v. Trinidad Design & Manufacturing US, Inc. and Ensign Drilling, Inc.; No. 2019-38586; Deposition before the 55<sup>th</sup> Judicial District Court, Harris County, Texas, 2021.
- The Tempo at Encore, LP and CPDG2, LLC v. Siltek Group, Inc. Berkley Insurance Company, Ana P. Silveira-Sierra, Rene Sierra, Tron Construction, LLC and Siltex Group, Inc. v. The Tempo At Encore, LP and CPDG2, LLC; Case No. 16-CA-005748 (L); Consolidated for discovery with Case No. 17-CA-007385 (L); Deposition and trial before the 13<sup>th</sup> Judicial Circuit Court of Hillsborough County, Florida, 2021 and 2023.
- Texas Advanced Optoelectronic Solutions Inc. v. Intersil, Inc.; Case No. 4:08-cv-451; Deposition and trial before the United States District Court for the Eastern District of Texas (Sherman Division), 2020 and 2021.
- In re: C2R Global Manufacturing, Inc., Debtor; Case No. 18-30182-beh (Chapter 11 Proceeding); Deposition before the United States Bankruptcy Court for the Eastern District of Wisconsin, 2020.
- ESI Group, ESI North America, Inc. and ESI US R&D, Inc. v. Wave Six, LLC, Dassault Systemes Simulia Corp., Philip Shorter, Vincent Cotoni, Sascha Merz, and Terence Connelly; Case No. 3:17-cv-02293-AJB-MSB; Deposition before the United States District Court for the District of California, 2020.
- Personalized Media Communications, LLC v. Google LLC; Civil Action No. 2:19-cv-00090; Deposition and trial before the United States District Court for the Eastern District of Texas (Marshall), 2020.
- Baker Hughes Oilfield Operations LLC v. Smith International, Inc.; Civil Action No. 4:16-cv-1956; Deposition before the United States District Court for the Southern District of Texas, 2019.
- International Technologies & Systems Corporation, d/b/a/ID Tech v. Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc.; Case No. 8:17-cv-01748-DOC-JDE; Deposition before the United States District Court for the Central District of California, 2019.
- Smith International, Inc. v. Baker Hughes; Case No. 1:16-cv-00056-ER; Deposition before the United States District Court for the District of Delaware, 2019.
- Huawei Technologies Co., Ltd., Futurewei Technologies, Inc. v. Yiren Ronnie Huang, CNEX Labs, Inc.; Case No. 4:17-cv-893 ALM; Deposition and trial before the Eastern District of Texas, 2019.
- Schlumberger Technology Corporation v. BICO Drilling Tools, Inc; Civil Action 4:17-cv-3211; Deposition before the Southern District of Texas, 2019.
- Finjan, Inc. v. ESET, LLC, et al.; Civil Action No. 3:17-cv-00183; Deposition and trial before the Southern District of California, 2019 and 2023.
- Syntel Sterling Best Shores Mauritius Limited, and Syntel, Inc. v. The TriZetto Group, Inc. and Cognizant Technology Solutions Corp.; Civil Action No. 1:15-cv-0211; Deposition and trial before the Southern District of New York, 2019, 2020, 2025.

# Publications and Presentations

- "Epic Systems Corporation, Plaintiff v. Tata Consultancy Services, et al, Defendants: Trade Secret Discussion," Dentons, October 17, 2016,
- "Intellectual Property Damages and Daubert," McAndrews, Held & Malloy, May 19, 2016.
- "Inter Partes Review and Secondary Considerations," Norton Rose Fulbright, January 11, 2016.
- "Intellectual Property Damages Update," The Elliott Law Firm, December 11, 2015.
- "The Use of Surveys for U.S. Patent Litigation," Kaye Scholer LLP, November 2013.
- "The Use of Surveys for U.S. Patent Litigation," State of California Continuing Legal Education, June 2013.
- "A Discussion of Economic Damages and the Entire Market Value Rule," State of Colorado Supreme Court Board of Continuing Legal & Judicial Education, Cooley LLP, 2013.
- "A Discussion of Economic Damages and the Entire Market Value Rule," State Bar of Texas Continuing Legal Education, Porter Hedges LLP, 2013.
- "Intellectual Property Damages, Putting the Pieces Together," A Discussion of Economic Damages and the Entire Market Value Rule, Southern Methodist University, 2013.
- "Impact of the America Invents Act on Business," Group Facilitator, Licensing Executive Society (USA and Canada), Inc. IP100 Executive Forum, 2012.
- "Trade Secret Damages," Chapter 9, Calculating and Proving Damages (coauthored with Christopher H. Spadea, et al.) (New York: Law Journal Press, 2011, Updated 2013, 2015).
- "Sharing the Risk: Patent Infringement Liability Indemnification and Insurance" Intellectual Property Litigation, Volume 21, Number 3, Spring 2010 (coauthored with Kim Cauthorn and Tamara Turek).
- "Approaches for Valuing Biotechnology/Pharmaceutical Inventions" Practicing Law Institute, Biotechnology Patents & Business Strategies in the New Millennium, San Diego, August 6-7, 2001.
- "Patent Valuation from a Business and Litigation Perspective" Licensing Executive Society (U.S.A. and Canada), Inc., Annual Meeting, Chicago, 2002.

### Professional and Business History

HKA Global (2023-present), Partner.

ASQ Consulting (2014-present), President.

Duff & Phelps (2008-2014), positions held include: Global Intellectual Property Practice Co-Leader (2014), National Intellectual Property Consulting Practice Leader (2008-2014), and Managing Director (2008-2014).

Lumin Expert Group (merged with Duff & Phelps) (2006-2008), positions held include: President (2007-2008) and Managing Director (2006-2007).

713-299-6756 ♦ E-mail: thomasbritven@hka.com 1800 West Loop South, Suite 2175, Houston, TX 77027

Thomas W. Britven
Page 5

Professional and Business History (continued) LECG (2002-2006), positions held include: Senior IP Practice Director (2006), Governing Board (2002-2006), and Managing Director (2002-2006).

Navigant Consulting (and its predecessor companies) (1983-2002), positions held include: Director (1999-2002), Vice President (1991-1999), Executive Consultant (1986-1991), and Senior Consultant (1983-1986).

Amsted Industries (1981-1983), positions held include: Senior in Charge Auditor (1983), Senior Auditor (1982-1983), and Staff Auditor (1981-1982)

Education and Certifications

Owner/President Management Program, Harvard Business School – 2012 to 2014

Chartered Global Management Accountant - May 2012

Certified Licensing Professional – May 2010

Intellectual Property and Business Strategy Program, Harvard Business School – February 2010

Leading Professional Services Firms Program, Harvard Business School – March 2009

AICPA Accredited in Business Valuation - May 2006 - March 2023

Certified Valuation Analyst – February 2004 Certified Fraud Examiner – December 1992

Certified Public Accountant, Florida – January 1989 Certified Public Accountant, Texas – February 1984

Passed Certified Public Accountant Examination, Iowa – February 1982

B.B.A., Accounting, University of Iowa – May 1981

Professional Associations & Affiliations Former Board of Directors and President of LES Foundation – 2013 and 2014

Former Board of Directors and Treasurer of LES Foundation – 2012

Former Associate Member American Bar Association

Former Examiner to Federal Bankruptcy Court

Member National Association of Certified Valuation Analysts

Member Licensing Executive Society

Member American Institute of Certified Public Accountants

Member Houston Chapter of Texas Institute of Certified Public Accountants

Member Association of Certified Fraud Examiners

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

# ATTACHMENT 2.0

1. QC HHY Royalty Report from L. Cochran	35. ARM_00068087-110
Deposition	36. ARM 00068131-154
2. ARM_00001067-084	37. ARM_00068202-204
3. ARM_00001192-193	38. ARM 00068459-482
4. ARM_00001195-197	39. ARM 00068504-527
5. ARM_00001198-200	- 40. ARM 00075096-097
6. ARM_00001473-475	41. ARM 00075098-130
7. ARM_00001495-497	42. ARM_00075343-366
8. ARM_00001512-514	- 43. ARM_00076113-145
9. ARM_00001777-779	- 44. ARM_00076357-358
10. ARM_00002045-075	45. ARM_00076910
11. ARM_00003305	46. ARM_00079223-225
12. ARM_00005340-344	47. ARM_00079226-230
13. ARM_00006123-155	48. ARM_00079507-514
14. ARM_00009370-375	49. ARM_00079722-723
15. ARM_00025401-403	50. ARM 00080651-653
16. ARM_00035319-320	51. ARM_00080874-880
17. ARM_00036346-348	52. ARM 00081203-208
18. ARM_00037077	53. ARM 00082083-089
19. ARM_00039179-196	54. ARM_00082120-127
20. ARM_00043924-926	55. ARM_00082874
21. ARM_00052643-644	56. ARM 00083490-491
22. ARM_00055357-399	57. ARM 00083492
23. ARM_00056307-317	58. ARM 00083608-609
24. ARM_00056332-333	59. ARM 00084600-602
25. ARM_00056571-573	60. ARM 00085567-571
26. ARM_00062055-056	61. ARM_00085581-585
27. ARM_00062441-473	62. ARM 00085679
28. ARM_00062474-493	63. ARM_00085680
29. ARM_00063283-284	64. ARM 00085710
30. ARM_00063298-312	65. ARM 00085719-723
31. ARM_00064523	_
32. ARM_00067349-372	66. ARM_00086164-245
33. ARM_00067636-639	67. ARM_00087431-435
34. ARM 00067726-727	68. ARM_00087439-443
_	69. ARM_00087640-643

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

# ATTACHMENT 2.0

70. ARM_00087825-827	105. ARM_00103918-972
71. ARM_00087844-850	106. ARM_00104158-174
72. ARM_00087865-866	107. ARM_00105045-048
73. ARM_00087868-870	108. ARM_00105723-725
74. ARM_00088011-015	109. ARM_00110017-030
75. ARM_00089058-063	110. ARM_00110130-136
76. ARM_00089070-077	111. ARM_00110507
77. ARM_00090791	112. ARM_00110509
78. ARM_00091389-405	113. ARM_00110511
79. ARM_00091657-658	114. ARM_00110513
80. ARM_00091659-686	115. ARM_00110515
81. ARM_00091714-741	116. ARM_00110517
82. ARM_00091768-784	117. ARM_00110542-548
83. ARM_00091799-817	118. ARM_00110871-880
84. ARM_00091834-852	119. ARM_00110914-915
85. ARM_00091869-887	120. ARM_00111449
86. ARM_00091903-917	121. ARM_00111591-593
87. ARM_00094098-143	122. ARM_00112097-101
88. ARM_00094546-548	123. ARM_00112122-126
89. ARM_00095578	124. ARM_00113178
90. ARM_00095579	125. ARM_00113179-192
91. ARM_00096879-905	126. ARM_00114880
92. ARM_00097521	127. ARM_00118835-938
93. ARM_00097522	128. ARM_00119119
94. ARM_00097625-627	129. ARM_00119602
95. ARM_00098373-375	130. ARM_00132241-242
96. ARM_00100013-029	131. ARM_01014940-941
97. ARM_00102683	132. ARM_01020186-189
98. ARM_00103566-600	133. ARM_01020195-196
99. ARM_00103635-669	134. ARM_01215564
100. ARM_00103702-703	135. ARM_01215878-879
101. ARM_00103710-711	136. ARM_01215885
102. ARM_00103718-719	137. ARM_01215887
103. ARM_00103781-782	138. ARM_01215888
104. ARM_00103804-818	139. ARM_01215889
_	

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

# ATTACHMENT 2.0

140. ARM_01215890	175. ARM_01231032
141. ARM_01215997-6001	176. ARM_01231033
142. ARM_01216178-179	177. ARM_01231034
143. ARM_01216189-194	178. ARM_01231037
144. ARM_01228027	179. ARM_01231038
145. ARM_01228031	180. ARM_01231039
146. ARM_01228035	181. ARM_01231040
147. ARM_01228039	182. ARM_01231041
148. ARM_01228043	183. ARM_01231042
149. ARM_01228044	184. ARM_01231043
150. ARM_01228048	185. ARM_01231044
151. ARM_01228049	186. ARM_01231045
152. ARM_01228053	187. ARM_01231046
153. ARM_01228054	188. ARM_01231047
154. ARM_01228058	189. ARM_01231048
155. ARM_01228059	190. ARM_01231049
156. ARM_01228063	191. ARM_01231050
157. ARM_01228064	192. ARM_01231051
158. ARM_01228073	193. ARM_01231052
159. ARM_01228074	194. ARM_01231053
160. ARM_01228075	195. ARM_01231054
161. ARM_01229969-979	196. ARM_01231055
162. ARM_01230032-036	197. ARM_01231056
163. ARM_01230076-083	198. ARM_01231057
164. ARM_01230084-091	199. ARM_01231058
165. ARM_01230117-122	200. ARM_01231059
166. ARM_01230155-162	201. ARM_01231060
167. ARM_01230977	202. ARM_01231061
168. ARM_01230978-980	203. ARM_01231062
169. ARM_01231025	204. ARM_01231063
170. ARM_01231027	205. ARM_01231064
171. ARM_01231028	206. ARM_01231249-250
172. ARM_01231029	207. ARM_01231267-271
173. ARM_01231030	208. ARM_01231394-195
174. ARM_01231031	209. ARM_01231614

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

# ATTACHMENT 2.0

210. ARM_01233086-088	245. ARM_01239483
211. ARM_01233089-090	246. ARM_01239485
212. ARM_01235323-327	247. ARM_01239486
213. ARM_01237129-136	248. ARM_01239488
214. ARM_01238132-134	249. ARM_01239503
215. ARM_01238384-399	250. ARM_01239504
216. ARM_01238422-427	251. ARM_01239506
217. ARM_01238895-896	252. ARM_01240226-236
218. ARM_01238977	253. ARM_01240281-282
219. ARM_01239056-068	254. ARM_01240305-307
220. ARM_01239440	255. ARM_01240308-325
221. ARM_01239441	256. ARM_01240382-391
222. ARM_01239442	257. ARM_01240438-447
223. ARM_01239444	258. ARM_01240448
224. ARM_01239445	259. ARM_01240470-507
225. ARM_01239447	260. ARM_01241379
226. ARM_01239448	261. ARM_01241472
227. ARM_01239449	262. ARM_01241565-566
228. ARM_01239451	263. ARM_01241581-582
229. ARM_01239452	264. ARM_01241585
230. ARM_01239453	265. ARM_01241587-588
231. ARM_01239458	266. ARM_01245720-726
232. ARM_01239459	267. ARM_01245939-940
233. ARM_01239464	268. ARM_01245941-978
234. ARM_01239465	269. ARM_01246043-066
235. ARM_01239470	270. ARM_01249519-527
236. ARM_01239471	271. ARM_01255498-519
237. ARM_01239472	272. ARM_0125886
238. ARM_01239473	273. ARM_01259705-60105
239. ARM_01239474	274. ARM_01271929-953
240. ARM_01239475	275. ARM_01282303
241. ARM_01239476	276. ARM_01282304-382
242. ARM_01239477	277. ARM_01282655-682
243. ARM_01239478	278. ARM_01291148
244. ARM_01239479	279. ARM_01293301-307

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

### **ATTACHMENT 2.0**

280. ARM_01293317-319	315. ARM_01427696-698
281. ARM_01293447-457	316. ARM_01427700-718
282. ARM_01298732-735	317. ARM_01427719-738
283. ARM_01298891-929	318. ARM_01427739-775
284. ARM_01299854-869	319. ARM_01427776-795
285. ARM_01299902-957	320. ARM_01427796-819
286. ARM_01300650-654	321. ARM_01427820-857
287. ARM_01300657-658	322. ARM_01427858-876
288. ARM_01300665-670	323. ARM_01427877-904
289. ARM_01304976-979	324. ARM_01427905-925
290. ARM_01304980-985	325. ARM_01427926-943
291. ARM_01305032-057	326. ARM_01427944-968
292. ARM_01308019-028	327. ARM_01427969-994
293. ARM_01311417	328. ARM_01427995-8008
294. ARM_01311418-448	329. ARM_01428009-032
295. ARM_01314327-337	330. ARM_01428033-056
296. ARM_01314501-516	331. ARM_01428057-058
297. ARM_01314615-622	332. ARM_01428059-062
298. ARM_01315194-196	333. ARM_01428063-102
299. ARM_01333009	334. ARM_01428103-144
300. ARM_01423231	335. ARM_01428145-178
301. ARM_01423234	336. ARM_01428179-206
302. ARM_01423238-244	337. ARM_01428207-250
303. ARM_01423239	338. ARM_01428251-270
304. ARM_01423632-634	339. ARM_01428271-292
305. ARM_01424135-208	340. ARM_01428293-315
306. ARM_01424330	341. ARM_01428316-338
307. ARM_01426582-590	342. ARM_01428339-376
308. ARM_01426872-895	343. ARM_01428377-405
309. ARM_01426896-937	344. ARM_01428406-430
310. ARM_01426938-956	345. ARM_01428431-449
311. ARM_01427634-660	346. ARM_01428450-471
312. ARM_01427661-682	347. ARM_01428472-493
313. ARM_01427683-693	348. ARM_01428494-514
314. ARM_01427694-695	349. ARM_01428515-539

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

# ATTACHMENT 2.0

350. ARM_01428543-549	385. ARMQC_02603581
351. ARM_01432965-996	386. ARMQC_02603582
352. ARM_01432997-3027	387. ARMQC_02603587
353. ARM_01453209-211	388. ARMQC_02604609
354. ARMQC_00000001-004	389. ARMQC_02604610
355. ARMQC_00000083-091	390. ARMQC_02604611
356. ARMQC_00000107-113	391. ARMQC_02604612
357. ARMQC_00000408-413	392. ARMQC_02604613
358. ARMQC_00001136-163	393. ARMQC_02604614
359. ARMQC_00024609-611	394. ARMQC_02604615
360. ARMQC_00027166-167	395. ARMQC_02604616
361. ARMQC_00028209	396. ARMQC_02604617
362. ARMQC_00028290-2298	397. ARMQC_02604618
363. ARMQC_00085998	398. ARMQC_02604619
364. ARMQC_02600059-071	399. ARMQC_02605445-464
365. ARMQC_02600334-339	400. ARMQC_02627275-297
366. ARMQC_02600667-671	401. ARMQC_02720799-803
367. ARMQC_02600713-728	402. ARMQC_02725741-755
368. ARMQC_02600803-818	403. ARMQC_02726184-233
369. ARMQC_02600819-820	404. ARMQC_02727255
370. ARMQC_02600838-841	405. ARMQC_02727609-629
371. ARMQC_02601067-071	406. ARMQC_02727973-983
372. ARMQC_02601116-117	407. ARMQC_02728703-711
373. ARMQC_02601777-811	408. ARMQC_02729412-414
374. ARMQC_02601829-835_001	409. ARMQC_02730887
375. ARMQC_02602328-331	410. ARMQC_02730889-894
376. ARMQC_02602445-447	411. ARMQC_02730917-922
377. ARMQC_02602450-452	412. ARMQC_02731051-053
378. ARMQC_02602454-456	413. ARMQC_02731250-283
379. ARMQC_02602458-460	414. ARMQC_02731284-305
380. ARMQC_02602462-464	415. ARMQC_02731630-638
381. ARMQC_02602466-468	416. ARMQC_02732393-395
382. ARMQC_02602472-473	417. ARMQC_02738597-608
383. ARMQC_02602550-553	418. ARMQC_02738965-972
384. ARMQC_02603580	419. ARMQC_02739659

# Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 125 of 616 PageID #: 26618

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

# ATTACHMENT 2.0

420. ARMQC_02739661-672	455. ARMQC_02748324-325
421. ARMQC_02740066-069	456. ARMQC_02749014-016
422. ARMQC_02740386-388	457. ARMQC_02749702-709
423. ARMQC_02740595-599	458. ARMQC_02750967-982
424. ARMQC_02740600-626	459. ARMQC_02750999-1014
425. ARMQC_02741400-403	460. ARMQC_02751388-394
426. ARMQC_02741404-407	461. ARMQC_02751596-598
427. ARMQC_02741408-411	462. ARMQC_02752343-347
428. ARMQC_02741412-415	463. ARMQC_02752632-651
429. ARMQC_02741466-467	464. ARMQC_02752740
430. ARMQC_02741727-429	465. ARMQC_02755397-428
431. ARMQC_02741731-734	466. ARMQC_02755446-470
432. ARMQC_02741735-745	467. ARMQC_02755490-514
433. ARMQC_02741954-2004	468. ARMQC_02755534-558
434. ARMQC_02742793-794	469. ARMQC_02755580-604
435. ARMQC_02742798-801	470. ARMQC_02755624-655
436. ARMQC_02742804-805	471. ARMQC_02755674-705
437. ARMQC_02742814-818	472. ARMQC_02755903-904
438. ARMQC_02742823-826	473. ARMQC_02755905-928
439. ARMQC_02742856-858	474. ARMQC_02756148-179
440. ARMQC_02742861-862	475. ARMQC_02756208-244
441. ARMQC_02742873-876	476. ARMQC_02756245
442. ARMQC_02743189-218	477. ARMQC_02756246-278
443. ARMQC_02744686-687_001-44	478. ARMQC_02756344-375
444. ARMQC_02745725-741	479. ARMQC_02756542-543
445. ARMQC_02746634-658	480. ARMQC_02756544-572
446. ARMQC_02746708-774	481. ARMQC_02756860-891
447. ARMQC_02746871-895	482. ARMQC_02760525-553
448. ARMQC_02747093-096	483. ARMQC_02762874-875
449. ARMQC_02747097-102	484. ARMQC_02762876-877
450. ARMQC_02747103	485. ARMQC_02762878
451. ARMQC_02747104	486. ARMQC_02762879
452. ARMQC_02747567-598	487. ARMQC_02762898-900
453. ARMQC_02747848-867	488. ARMQC_02762949-951
454. ARMQC_02747993-998	489. ARMQC_02762963-965

# Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 126 of 616 PageID #: 26619

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

# ATTACHMENT 2.0

490. ARMQC_02762971	525. ARMQC_02774642-657
491. ARMQC_02762974-976	526. ARMQC_02774738-747
492. ARMQC_02762982-985	527. ARMQC_02774748-756
493. ARMQC_02762987	528. ARMQC_02774757-766
494. ARMQC_02762991-3025	529. ARMQC_02774767-813
495. ARMQC_02770389-390	530. ARMQC_02774814-815
496. ARMQC_02770599-603	531. ARMQC_02774816-817
497. ARMQC_02771124	532. ARMQC_02774818-843
498. ARMQC_02771125	533. ARMQC_02774844-855
499. ARMQC_02771126	534. ARMQC_02774856-863
500. ARMQC_02771127	535. ARMQC_02775090-162
501. ARMQC_02771128	536. ARMQC_02777440-441
502. ARMQC_02771129-150	537. ARMQC_02777448-449
503. ARMQC_02771151-167	538. ARMQC_02777458-464
504. ARMQC_02771200	539. ARMQC_02777465-472
505. ARMQC_02771221-227	540. ARMQC_02778159-166
506. ARMQC_02771350-453	541. ARMQC_02778177
507. ARMQC_02771883-884	542. ARMQC_02778178
508. ARMQC_02771946-948	543. ARMQC_02778241-249
509. ARMQC_02772155-156	544. ARMQC_02778342-343
510. ARMQC_02772241-245	545. ARMQC_02779064-075
511. ARMQC_02772246-250	546. ARMQC_02779076-083
512. ARMQC_02772333-365	547. ARMQC_02779099-106
513. ARMQC_02772366-385	548. ARMQC_02779107-115
514. ARMQC_02773054-055	549. ARMQC_02779116-121
515. ARMQC_02773055	550. ARMQC_02779122-132
516. ARMQC_02773185-186	551. ARMQC_02779133-144
517. ARMQC_02773565-569	552. ARMQC_02779170
518. ARMQC_02773570-573	553. ARMQC_02779171-173
519. ARMQC_02773574	554. ARMQC_02779174-175
520. ARMQC_02773656-370	555. ARMQC_02779176-178
521. ARMQC_02774029-035	556. ARMQC_02779179-180
522. ARMQC_02774378-384	557. ARMQC_02779181-182
523. ARMQC_02774494-500	558. ARMQC_02779269-313
524. ARMQC_02774539-547	559. ARMQC_02779314-363

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

# ATTACHMENT 2.0

560 ADMOC 02770264 200	505 ADMOC 02785248 407
560. ARMQC_02779364-390	595. ARMQC_02785348-407
561. ARMQC_02779391-411	596. ARMQC_02785408-426
562. ARMQC_02779412-432	597. ARMQC_02785427-428
563. ARMQC_02779433-482	598. ARMQC_02785429-435
564. ARMQC_02779483-511	599. ARMQC_02785436-473
565. ARMQC_02783473-511	600. ARMQC_02785474-498
566. ARMQC_02783512-532	601. ARMQC_02785499-500
567. ARMQC_02783533-574	602. ARMQC_02785501-502
568. ARMQC_02783575-594	603. ARMQC_02785503-512
569. ARMQC_02783595-596	604. ARMQC_02785513-556
570. ARMQC_02783597-598	605. ARMQC_02785557-577
571. ARMQC_02783599-600	606. ARMQC_02785578-580
572. ARMQC_02783601-602	607. ARMQC_02785581-582
573. ARMQC_02783603-614	608. ARMQC_02785583-587
574. ARMQC_02783615	609. FGS_0000389-390
575. ARMQC_02783618	610. KF00001-228
576. ARMQC_02783619-730	611. KF00261-466
577. ARMQC_02783731-845	612. KF00467-496
578. ARMQC_02783731-847	613. KF00507-512
579. ARMQC_02783848-966	614. KF00508-512
580. ARMQC_02783967-4084	615. KF00516-517
581. ARMQC_02784120-198	616. KF00578-579
582. ARMQC_02784199-203	617. KF00580-584
583. ARMQC_02784204	618. KF00585-603
584. ARMQC_02784227-244	619. KF00668-672
585. ARMQC_02784247-254	620. KF00673-675
586. ARMQC_02784258	621. KF00774-785
587. ARMQC_02784661-663	622. KF00811-816
588. ARMQC_02784664-667	623. KF00817-825
589. ARMQC_2781238-261	624. KF00826-836
590. ARMQC_2781262-285	625. KF01098-100
591. ARMQC_02785291-325	626. KF01386
592. ARMQC_02785326-341	627. KF01387-388
593. ARMQC_02785342-343	628. MOFO_ARMQC_00000001
594. ARMQC 02785344-347	629. MOFO_ARMQC_00000002-003
• =	= · · -

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

# ATTACHMENT 2.0

(40.160) + 10.60 + 0.0000 + 0.05	((5 0 G ) D) 5 00 10 500 500
630. MOFO_ARMQC_00000004-005	665. QCARM_0343533-587
631. MOFO_ARMQC_00000006-027	666. QCARM_0343954-976
632. QC_1151573-577	667. QCARM_0344783-788
633. QCARM_0016229-242	668. QCARM_0345376-389
634. QCARM_0024817	669. QCARM_0345914-921
635. QCARM_0027985-986	670. QCARM_0350039-120
636. QCARM_0028009-021	671. QCARM_0360161-176
637. QCARM_0029006-011	672. QCARM_0362108-109
638. QCARM_0029040-050	673. QCARM_0483799-800
639. QCARM_0167334-355	674. QCARM_0562765-800
640. QCARM_0167386-411	675. QCARM_0566625-627
641. QCARM_0167946-957	676. QCARM_0569125-164
642. QCARM_0169753-799	677. QCARM_0573247-291
643. QCARM_0169823-873	678. QCARM_0579579-702
644. QCARM_0208733-745	679. QCARM_0626519-521
645. QCARM_0217597	680. QCARM_2412906-907
646. QCARM_0218409-443	681. QCARM_2416747-748
647. QCARM_0222545-546	682. QCARM_2423696-726
648. QCARM_0229357-358	683. QCARM_2430175
649. QCARM_0277129-130	684. QCARM_2430181-482
650. QCARM_0314128-207	685. QCARM_2533808-815
651. QCARM_0333656-801	686. QCARM_3004833-834
652. QCARM_0337591-627	687. QCARM_3059661
653. QCARM_0337838	688. QCARM_3066477-483
654. QCARM_0337857-899	689. QCARM_3216178-185
655. QCARM_0338180-242	690. QCARM_3313115
656. QCARM_0338243-262	691. QCARM_3337526-529
657. QCARM_0338352-429	692. QCARM_3337900-902
658. QCARM_0338573-576	693. QCARM_3338108-110
659. QCARM_0338883	694. QCARM_3339493-495
660. QCARM_0339100-127	695. QCARM_3352796-798
661. QCARM_0340003	696. QCARM_3353006-010
662. QCARM_0340017-061	697. QCARM_3353040
663. QCARM_0343120-142	698. QCARM_3353126-130
664. QCARM_0343143-222	699. QCARM_3419636-638

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

# ATTACHMENT 2.0

700. QCARM 3419788-792	735. QCARM 7431828
	<u> </u>
701. QCARM_3421025-028	736. QCARM_7431832-833
702. QCARM_3421029-033	737. QCARM_7463823-928
703. QCARM_3425702-706	738. QCARM_7464139-240
704. QCARM_3430479-482	739. QCARM_7464653-757
705. QCARM_3432839-842	740. QCARM_7464862-968
706. QCARM_3433743-780	741. QCARM_7464969-5069
707. QCARM_3449986-50012	742. QCARM_7465288-401
708. QCARM_3464080-081	743. QCARM_7465644-764
709. QCARM_3473070-073	744. QCARM_7465765-878
710. QCARM_3480078-094	745. QCARM_7465962-6075
711. QCARM_3480078-097	746. QCARM_7466191-305
712. QCARM_3485264-343	747. QCARM_7474253-254
713. QCARM_3489547-552	748. QCARM_7475224-225
714. QCARM_3496803-928	749. QCARM_7477117-118
715. QCARM_3509490-520	750. QCARM_7484460-461
716. QCARM_3509521-556	751. QCARM_7484463
717. QCARM_3522626-628	752. QCARM_7484465-466
718. QCARM_3522894	753. QCARM_7484477-479
719. QCARM_3533982	754. QCARM_7484882-888
720. QCARM_3534037	755. QCARM_7492376-453
721. QCARM_3537383-406	756. QCARM_7515834-835
722. QCARM_3537716-719	757. QCARM_7622616-618
723. QCARM_3633088-132	758. QCVARM_0000061-070
724. QCARM_3961297-298	759. QCVARM_0000085-091
725. QCARM_3961355-357	760. QCVARM_0000092-097
726. QCARM_3961358-361	761. QCVARM_0000114-116
727. QCARM_3961513-530	762. QCVARM_0000123-128
728. QCARM_7401402-419	763. QCVARM_0000135-138
729. QCARM_7428754-756	764. QCVARM_0000142-146
730. QCARM_7429134-136	765. QCVARM_0000180-183
731. QCARM_7429297-301	766. QCVARM_0000218-223
732. QCARM_7430331-332	767. QCVARM_0000269-275
733. QCARM_7430333-334	768. QCVARM_0000395-399
734. QCARM 7431509-510	769. QCVARM_0000482-483
` -	• –

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

# ATTACHMENT 2.0

770. QCVARM_0029609-623	805. QCVARM_0452598-605
771. QCVARM_0447175-181	806. QCVARM_0452684-686
772. QCVARM_0447242-243	807. QCVARM_0453129-137
773. QCVARM_0447248-251	808. QCVARM_0453334-353
774. QCVARM_0447252-254	809. QCVARM_0453724-799
775. QCVARM_0447464-473	810. QCVARM_0454071-072
776. QCVARM_0447871-944	811. QCVARM_0454629-635
777. QCVARM_0448066-078	812. QCVARM_0454821-824
778. QCVARM_0448085-098	813. QCVARM_0455016
779. QCVARM_0448361	814. QCVARM_0455212-268
780. QCVARM_0448362	815. QCVARM_0455341-354
781. QCVARM_0448757-766	816. QCVARM_0456283-287
782. QCVARM_0448842-844	817. QCVARM_0457029-035
783. QCVARM_0449160-164	818. QCVARM_0458346-386
784. QCVARM_0449561-565	819. QCVARM_0460408-411
785. QCVARM_0449653-657	820. QCVARM_0461296-303
786. QCVARM_0449658-661	821. QCVARM_0462995-3086
787. QCVARM_0449883-900	822. QCVARM_0463153-536
788. QCVARM_0449950-955	823. QCVARM_0463558
789. QCVARM_0449970-972	824. QCVARM_0463559-569
790. QCVARM_0450016-017	825. QCVARM_0463837-839
791. QCVARM_0450024-050	826. QCVARM_0464076-114
792. QCVARM_0450176	827. QCVARM_0464124-127
793. QCVARM_0450192-194	828. QCVARM_0464128-166
794. QCVARM_0450317-319	829. QCVARM_0464495-499
795. QCVARM_0450320-324	830. QCVARM_0464648-652
796. QCVARM_0450425-437	831. QCVARM_0465090-095
797. QCVARM_0450438	832. QCVARM_0465188-225
798. QCVARM_0450606-614	833. QCVARM_0465502-545
799. QCVARM_0451587	834. QCVARM_0465566-598
800. QCVARM_0451824-825	835. QCVARM_0465604-606
801. QCVARM_0452199-224	836. QCVARM_0465730-773
802. QCVARM_0452296-299	837. QCVARM_0465917-979
803. QCVARM_0452326-328	838. QCVARM_0465980-990
804. QCVARM_0452397-401	839. QCVARM_0466045-053

# Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 131 of 616 PageID #: 26624

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

# ATTACHMENT 2.0

840. QCVARM_0466056-119	875. QCVARM_0524718-720
841. QCVARM_0466177-230	876. QCVARM_0524726
842. QCVARM_0466366-439	877. QCVARM_0524739
843. QCVARM_0466478-488	878. QCVARM_0524775-777
844. QCVARM_0466936-954	879. QCVARM_0524900-902
845. QCVARM_0467171-218	880. QCVARM_0525081-081.00042
846. QCVARM_0467529	881. QCVARM_0525167-169
847. QCVARM_0467601-643	882. QCVARM_0525196-202
848. QCVARM_0467659-663	883. QCVARM_0525344-353
849. QCVARM_0467694-697	884. QCVARM_0525354-355
850. QCVARM_0467852-855	885. QCVARM_0525819
851. QCVARM_0468074-075	886. QCVARM_0525820
852. QCVARM_0468076-080	887. QCVARM_0525844-850
853. QCVARM_0468082	888. QCVARM_0526038
854. QCVARM_0468148	889. QCVARM_0526286
855. QCVARM_0468164-168	890. QCVARM_0526828-830
856. QCVARM_0468174-181	891. QCVARM_0527125-134
857. QCVARM_0468212-214	892. QCVARM_0527427-438
858. QCVARM_0468426-431	893. QCVARM_0527470-502
859. QCVARM_0468612-613	894. QCVARM_0527544-548
860. QCVARM_0468623-625	895. QCVARM_0527827-830
861. QCVARM_0520880-2725	896. QCVARM_0527863-885
862. QCVARM_0522726-728	897. QCVARM_0528119
863. QCVARM_0523650-652	898. QCVARM_0528826
864. QCVARM_0523656-668	899. QCVARM_0528936-938
865. QCVARM_0523730-732	900. QCVARM_0528955
866. QCVARM_0523754-758	901. QCVARM_0528956-963
867. QCVARM_0523826-831	902. QCVARM_0528981
868. QCVARM_0523837-842	903. QCVARM_0529021
869. QCVARM_0523995-998	904. QCVARM_0529072-077
870. QCVARM_0524007-011	905. QCVARM_0529438-454
871. QCVARM_0524138-220	906. QCVARM_0529703-707
872. QCVARM_0524237-253	907. QCVARM_0529842-886
873. QCVARM_0524362	908. QCVARM_0529887-889
874. QCVARM_0524624-626	909. QCVARM_0530133-151

# Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 132 of 616 PageID #: 26625

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

# ATTACHMENT 2.0

910. QCVARM_0530245-256	945. QCVARM_0572936-967
911. QCVARM_0530447-453	946. QCVARM_0573056-057
912. QCVARM_0531270-272	947. QCVARM_0573354-356
913. QCVARM_0531350-361	948. QCVARM_0573669-670
914. QCVARM_0531368	949. QCVARM_0573671-673
915. QCVARM_0531514-552	950. QCVARM_0573677-678
916. QCVARM_0531658-661	951. QCVARM_0573684
917. QCVARM_0531817-820	952. QCVARM_0573685-686
918. QCVARM_0531821-824	953. QCVARM_0575290
919. QCVARM_0531864	954. QCVARM_0575607-610
920. QCVARM_0531892-913	955. QCVARM_0575611-612
921. QCVARM_0531919-920	956. QCVARM_0575613-614
922. QCVARM_0532239-257	957. QCVARM_0575615
923. QCVARM_0532274-275	958. QCVARM_0575616
924. QCVARM_0532413-457	959. QCVARM_0575617-620
925. QCVARM_0532997-998	960. QCVARM_0575634-635
926. QCVARM_0534596-963	961. QCVARM_0575636-637
927. QCVARM_0534597-618	962. QCVARM_0575825-828
928. QCVARM_0535116-119	963. QCVARM_0577503-505
929. QCVARM_0535154-156	964. QCVARM_0577544
930. QCVARM_0535481-500	965. QCVARM_0578265-266
931. QCVARM_0535654	966. QCVARM_0579532-540
932. QCVARM_0535721-728	967. QCVARM_0580173-180
933. QCVARM_0535870-871	968. QCVARM_0580181-193
934. QCVARM_0535902-905	969. QCVARM_0595522-529
935. QCVARM_0537065-074	970. QCVARM_0595815
936. QCVARM_0539180-184	971. QCVARM_0599620-623
937. QCVARM_0539482-484	972. QCVARM_0599801-802
938. QCVARM_0540468-472	973. QCVARM_0600037
939. QCVARM_0543859-869	974. QCVARM_0600038
940. QCVARM_0544259-259.00003	975. QCVARM_0600039
941. QCVARM_0571333-349	976. QCVARM_0600040
942. QCVARM_0571705-715	977. QCVARM_0600041
943. QCVARM_0572833-834	978. QCVARM_0600042
944. QCVARM_0572851-857	979. QCVARM_0600043

# Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 133 of 616 PageID #: 26626

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

# ATTACHMENT 2.0

980. QCVARM_0600044	1015. QCVARM_0600079
981. QCVARM_0600045	1016. QCVARM_0600080
982. QCVARM_0600046	1017. QCVARM_0600081
983. QCVARM_0600047	1018. QCVARM_0600082
984. QCVARM_0600048	1019. QCVARM_0600083
985. QCVARM_0600049	1020. QCVARM_0600084
986. QCVARM_0600050	1021. QCVARM_0600085
987. QCVARM_0600051	1022. QCVARM_0600086
988. QCVARM_0600052	1023. QCVARM_0600087
989. QCVARM_0600053	1024. QCVARM_0600088
990. QCVARM_0600054	1025. QCVARM_0600089
991. QCVARM_0600055	1026. QCVARM_0600090
992. QCVARM_0600056	1027. QCVARM_0600091
993. QCVARM_0600057	1028. QCVARM_0600092
994. QCVARM_0600058	1029. QCVARM_0600093
995. QCVARM_0600059	1030. QCVARM_0600094
996. QCVARM_0600060	1031. QCVARM_0600095
997. QCVARM_0600061	1032. QCVARM_0600096
998. QCVARM_0600062	1033. QCVARM_0600097
999. QCVARM_0600063	1034. QCVARM_0600098-100
1000. QCVARM_0600064	1035. QCVARM_0600101-103
1001. QCVARM_0600065	1036. QCVARM_0600222
1002. QCVARM_0600066	1037. QCVARM_0600236
1003. QCVARM_0600067	1038. QCVARM_0600331
1004. QCVARM_0600068	1039. QCVARM_0600533-553
1005. QCVARM_0600069	1040. QCVARM_0600730-734
1006. QCVARM_0600070	1041. QCVARM_0600801-804
1007. QCVARM_0600071	1042. QCVARM_0601671-694
1008. QCVARM_0600072	1043. QCVARM_0601718-723
1009. QCVARM_0600073	1044. QCVARM_0601787-797
1010. QCVARM_0600074	1045. QCVARM_0601923-926
1011. QCVARM_0600075	1046. QCVARM_0602168-177
1012. QCVARM_0600076	1047. QCVARM_0602198-203
1013. QCVARM_0600077	1048. QCVARM_0602227-228
1014. QCVARM_0600078	1049. QCVARM_0602258-261

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

# ATTACHMENT 2.0

1050 OCWADM 0602205 200	1005 OCWARM 0612027 020
1050. QCVARM_0602295-299	1085. QCVARM_0613037-039
1051. QCVARM_0602317-321	1086. QCVARM_0613083-084
1052. QCVARM_0602359-361	1087. QCVARM_0613160-169
1053. QCVARM_0602395-2400	1088. QCVARM_0615918-919
1054. QCVARM_0602404-405	1089. QCVARM_0616170-171
1055. QCVARM_0602434-435	1090. QCVARM_0616348
1056. QCVARM_0602564-565	1091. QCVARM_0616349-431
1057. QCVARM_0602952-963	1092. QCVARM_0616633-634
1058. QCVARM_0604135-150	1093. QCVARM_0616636-674
1059. QCVARM_0604257-259	1094. QCVARM_0616687-688
1060. QCVARM_0605055-062	1095. QCVARM_0616871-873
1061. QCVARM_0605502-538	1096. QCVARM_0616906
1062. QCVARM_0605658-659	1097. QCVARM_0616907-911
1063. QCVARM_0605660-660.00007	1098. QCVARM_0616912-913
1064. QCVARM_0605661-666	1099. QCVARM_0616914-915
1065. QCVARM_0605876-941	1100. QCVARM_0616916-918
1066. QCVARM_0606806-812	1101. QCVARM_0616919
1067. QCVARM_0607060	1102. QCVARM_0616920-927
1068. QCVARM_0607506-509	1103. QCVARM_0616928-934
1069. QCVARM_0607680-688	1104. QCVARM_0616935
1070. QCVARM_0607691-696	1105. QCVARM_0616936-938
1071. QCVARM_0608106-107	1106. QCVARM_0616939-641
1072. QCVARM_0608131-138	1107. QCVARM_0616942-946
1073. QCVARM_0608314-316	1108. QCVARM_0616947
1074. QCVARM_0608391-393	1109. QCVARM_0616948-949
1075. QCVARM_0608423-424	1110. QCVARM_0616950-951
1076. QCVARM 0608452-461	1111. QCVARM_0616952-954
1077. QCVARM 0608501-504	1112. QCVARM_0616955-958
1078. QCVARM 0608626-655	1113. QCVARM 0616959-962
1079. QCVARM 0608764-767	1114. QCVARM_0616963
1080. QCVARM 0609540	1115. QCVARM_0616964
1081. QCVARM 0609541-542	1116. QCVARM 0616965-966
1082. QCVARM 0609543-544	1117. QCVARM 0616967-969
1083. QCVARM 0609881-889	1118. QCVARM_0616970-974
1084. QCVARM 0612367-376	1119. QCVARM 0616975-976
· · · · · · · · · · · · · · · · · · ·	31 62 12

# Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 135 of 616 PageID #: 26628

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

# ATTACHMENT 2.0

1120. QCVARM_0617243	1155. QCVARM_0618449
1121. QCVARM_0617244	1156. QCVARM_0618450
1122. QCVARM_0617401-403	1157. QCVARM_0618453
1123. QCVARM_0617453	1158. QCVARM_0618454
1124. QCVARM_0617454-455	1159. QCVARM_0618455
1125. QCVARM_0617456-458	1160. QCVARM_0618456-458
1126. QCVARM_0617459-459.000019	1161. QCVARM_0618459-460
1127. QCVARM_0617460-461	1162. QCVARM_0618461-463
1128. QCVARM_0617462-516	1163. QCVARM_0618568-569
1129. QCVARM_0617517-538	1164. QCVARM_0618694-695
1130. QCVARM_0617730-738	1165. QCVARM_0618702
1131. QCVARM_0617739-741	1166. QCVARM_0618703-704
1132. QCVARM_0617756-759	1167. QCVARM_0618705-706
1133. QCVARM_0617760-768	1168. QCVARM_0618707
1134. QCVARM_0617829-831	1169. QCVARM_0618708-711
1135. QCVARM_0617902	1170. QCVARM_0618712
1136. QCVARM_0617903-905	1171. QCVARM_0618741-746
1137. QCVARM_0617947	1172. QCVARM_0618843-850
1138. QCVARM_0617948-950	1173. QCVARM_0618975-976
1139. QCVARM_0617951-953	1174. QCVARM_0621447
1140. QCVARM_0617954-956	1175. QCVARM_0621448-540
1141. QCVARM_0617957	1176. QCVARM_0621692
1142. QCVARM_0617958-960	1177. QCVARM_0624133-135
1143. QCVARM_0617961-963	1178. QCVARM_0626519-521
1144. QCVARM_0617964-966	1179. QCVARM_0626590-598
1145. QCVARM_0617978-979	1180. QCVARM_0626603-611
1146. QCVARM_0618320	1181. QCVARM_0667395-396
1147. QCVARM_0618324-327	1182. QCVARM_0685544-547
1148. QCVARM_0618336-337	1183. QCVARM_0685578-579
1149. QCVARM_0618338-340	1184. QCVARM_0687237-238
1150. QCVARM_0618354	1185. QCVARM_0687476-478
1151. QCVARM_0618377-381	1186. QCVARM_0687479-481
1152. QCVARM_0618387-388	1187. QCVARM_0687758-759
1153. QCVARM_0618420-423	1188. QCVARM_0687760
1154. QCVARM_0618448	1189. QCVARM_0687766-768

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

# ATTACHMENT 2.0

1190. QCVARM_0687862-864	1225. QCVARM_0713527
1191. QCVARM_0688777	1226. QCVARM_0713528
1192. QCVARM_0688778	1227. QCVARM_0713530-531
1193. QCVARM_0688834-835	1228. QCVARM_0713532-534
1194. QCVARM_0688922-924	1229. QCVARM_0713535-537
1195. QCVARM_0688932-934	1230. QCVARM_0713538
1196. QCVARM_0689117-120	1231. QCVARM_0713652-654
1197. QCVARM_0691521-525	1232. QCVARM_0713665-668
1198. QCVARM_0691526-530	1233. QCVARM_0713773-775
1199. QCVARM_0691853-854	1234. QCVARM_0713840-842
1200. QCVARM_0692586-588	1235. QCVARM_0717359-360
1201. QCVARM_0692665-666	1236. QCVARM_0717660
1202. QCVARM_0692718	1237. QCVARM_0717756
1203. QCVARM_0699176-177	1238. QCVARM_0717757-761
1204. QCVARM_0699179-181	1239. QCVARM_0717764
1205. QCVARM_0699275-277	1240. QCVARM_0717765-767
1206. QCVARM_0699278-281	1241. QCVARM_0717964-965
1207. QCVARM_0707732-034	1242. QCVARM_0846761-870
1208. QCVARM_0707997-999	1243. QCVARM_0846871-925
1209. QCVARM_0708086-087	1244. QCVARM_0847000-056
1210. QCVARM_0708107-108	1245. QCVARM_0847094-099
1211. QCVARM_0708118-121	1246. QCVARM_0847182-183
1212. QCVARM_0709978-991	1247. QCVARM_0847184-185
1213. QCVARM_0710047-120	1248. QCVARM_0847668-671
1214. QCVARM_0710418-418.00029	1249. QCVARM_0847765-812
1215. QCVARM_0711109	1250. QCVARM_0848786-853
1216. QCVARM_0711110-113	1251. QCVARM_0848924-9042
1217. QCVARM_0712363	1252. QCVARM_0850604-606
1218. QCVARM_0712364-383	1253. QCVARM_0850838-892
1219. QCVARM_0713409	1254. QCVARM_0850937-993
1220. QCVARM_0713410-441	1255. QCVARM_0851120-180
1221. QCVARM_0713477-479	1256. QCVARM_0851183-225
1222. QCVARM_0713488-489	1257. QCVARM_0851271-276
1223. QCVARM_0713513-515	1258. QCVARM_0851333-393
1224. QCVARM_0713516-517	1259. QCVARM_0851410-411
_	_

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

# ATTACHMENT 2.0

10(0, 00VADM, 0051440, 505	1205 0014 PM 00(4022 025
1260. QCVARM_0851449-505	1295. QCVARM_0864833-837
1261. QCVARM_0851511	1296. QCVARM_0864838
1262. QCVARM_0851512-555	1297. QCVARM_0864839-842
1263. QCVARM_0851782-836	1298. QCVARM_0864901-903
1264. QCVARM_0851837-875	1299. QCVARM_0864924-925
1265. QCVARM_0851876-907	1300. QCVARM_0864933-934
1266. QCVARM_0852203-286	1301. QCVARM_0864967-968
1267. QCVARM_0852621-644	1302. QCVARM_0864969-972
1268. QCVARM_0854027-044	1303. QCVARM_0865022-028
1269. QCVARM_0854985-5046	1304. QCVARM_0865233
1270. QCVARM_0855117-132	1305. QCVARM_0865236-240
1271. QCVARM_0855434-436	1306. QCVARM_0865279-283
1272. QCVARM_0855438-446	1307. QCVARM_0865343
1273. QCVARM_0855455-456	1308. QCVARM_0865344-348
1274. QCVARM_0855474-476	1309. QCVARM_0865360
1275. QCVARM_0855614	1310. QCVARM_0865367-369
1276. QCVARM_0855614-615	1311. QCVARM_0865370
1277. QCVARM_0856270	1312. QCVARM_0865412-414
1278. QCVARM_0856270-271	1313. QCVARM_0865415
1279. QCVARM_0856340-753	1314. QCVARM_0865420-425
1280. QCVARM_0856754-778	1315. QCVARM_0865430-431
1281. QCVARM_0856864-866	1316. QCVARM_0865435
1282. QCVARM_0856888-894	1317. QCVARM_0865479-480
1283. QCVARM_0857113-148	1318. QCVARM_0865488-489
1284. QCVARM_0863181-185	1319. QCVARM_0865490
1285. QCVARM_0863300-323	1320. QCVARM_0865602-601
1286. QCVARM_0863428-431	1321. QCVARM_0866177
1287. QCVARM_0863435-437	1322. QCVARM_1014030-112
1288. QCVARM_0863641-643	1323. QCVARM_1014162-171
1289. QCVARM_0863644-646	1324. QCVARM_1014186-204
1290. QCVARM_0863810-823	1325. QCVARM_1014307-309
1291. QCVARM_0864030-057	1326. QCVARM_1014424-451
1292. QCVARM_0864277-282	1327. QCVARM_1014892
1293. QCVARM_0864713	1328. QCVARM_1014955
1294. QCVARM_0864833	1329. QCVARM_1015219-221

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

# ATTACHMENT 2.0

1330. QCVARM_1015426	1365. QCVARM_1030813-814
1331. QCVARM_1015438	1366. QCVARM_1031097-098
1332. QCVARM_1015821-843	1367. QCVARM_1031251-255
1333. QCVARM_1016051-077	1368. QCVARM_1031267-268
1334. QCVARM_1016205-216	1369. QCVARM_1034376-377
1335. QCVARM_1016218-237	1370. QCVARM_1042773-775
1336. QCVARM_1016837-679	1371. QCVARM_1042776
1337. QCVARM_1017127-148	1372. QCVARM_1042777-779
1338. QCVARM_1017149-168	1373. QCVARM_1042780
1339. QCVARM_1017169-187	1374. QCVARM_1057229-8013
1340. QCVARM_1017295-327	1375. QCVARM_1066278
1341. QCVARM_1017417-437	1376. QCVARM_1066761-804
1342. QCVARM_1017438-463	1377. QCVARM_1067283
1343. QCVARM_1017467-493	1378. QCVARM_1067284
1344. QCVARM_1017747	1379. QCVARM_1067287-301
1345. QCVARM_1017997	1380. QCVARM_1067304-305
1346. QCVARM_1019251-252	1381. QCVARM_1067306-312
1347. QCVARM_1019256	1382. QCVARM_1067338-344
1348. QCVARM_1020165-215	1383. QCVARM_1067662-664
1349. QCVARM_1022267	1384. QCVARM_1067971-8007
1350. QCVARM_1022268	1385. QCVARM_1068133-134
1351. QCVARM_1022565-579	1386. QCVARM_1068137-139
1352. QCVARM_1023593-611	1387. QCVARM_1068141-148
1353. QCVARM_1024852	1388. QCVARM_1068152-163
1354. QCVARM_1024873-877	1389. QCVARM_1068191-214
1355. QCVARM_1026209-231	1390. QCVARM_1068222-230
1356. QCVARM_1028388	1391. QCVARM_1068352-355
1357. QCVARM_1028558-560	1392. QCVARM_1068356-359
1358. QCVARM_1028750-751	1393. QCVARM_1068388-396
1359. QCVARM_1029604-607	1394. QCVARM_1068434-442
1360. QCVARM_1029757-758	1395. QCVARM_1068459-467
1361. QCVARM_1029911-912	1396. QCVARM_1068512-515
1362. QCVARM_1030011-012	1397. QCVARM_1068516-520
1363. QCVARM_1030509-510	1398. QCVARM_1068521-524
1364. QCVARM_1030726-729	1399. QCVARM_1068525-534

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

# ATTACHMENT 2.0

1400. QCVARM_1068603-611	1435. QCVARM_1070831-833
1401. QCVARM_1068612-621	1436. QCVARM_1071192
1402. QCVARM_1068645-652	1437. QCVARM_1071193
1403. QCVARM_1068666-670	1438. QCVARM_1071194
1404. QCVARM_1068739-904	1439. QCVARM_1071199
1405. QCVARM_1068905-921	1440. QCVARM_1071201-230
1406. QCVARM_1068922-965	1441. QCVARM_1071232-238
1407. QCVARM_1068967-968	1442. QCVARM_1071244
1408. QCVARM_1068986-987	1443. QCVARM_1071246
1409. QCVARM_1068988-989	1444. QCVARM_1071248-499
1410. QCVARM_1068990-993	1445. QCVARM_1071500-501
1411. QCVARM_1068995-9013	1446. QCVARM_1071502-962
1412. QCVARM_1069077-081	1447. QCVARM_1071972-979
1413. QCVARM_1069082-086	1448. QCVARM_1071980-992
1414. QCVARM_1069106-110	1449. QCVARM_1071993-994
1415. QCVARM_1069112-126	1450. QCVARM_1072199-500
1416. QCVARM_1069129-147	1451. QCVARM_1073895-4048
1417. QCVARM_1069363-433	1452. QCVARM_1088375-488
1418. QCVARM_1069483-535	1453. QCVARM_1090346-695
1419. QCVARM_1069555-659	1454. QCVARM_1115364
1420. QCVARM_1069674-675	1455. QCVARM_1115421-423
1421. QCVARM_1069705-707	1456. QCVARM_1115424-426
1422. QCVARM_1069708-709	1457. QCVARM_1115427
1423. QCVARM_1069710	1458. QCVARM_1117815-817
1424. QCVARM_1069941-944	1459. QCVARM_1117818-820
1425. QCVARM_1069945-948	1460. QCVARM_1117821-824
1426. QCVARM_1069949-952	1461. QCVARM_1117825-827
1427. QCVARM_1070005-007	1462. QCVARM_1117836-838
1428. QCVARM_1070014-019	1463. QCVARM_1117839-842
1429. QCVARM_1070027-028	1464. QCVARM_1117843-846
1430. QCVARM_1070034-040	1465. QCVARM_1117847-850
1431. QCVARM_1070077	1466. QCVARM_1117851-854
1432. QCVARM_1070081-083	1467. QCVARM_1117866-869
1433. QCVARM_1070271-278	1468. QCVARM_1117873-876
1434. QCVARM_1070640-642	1469. QCVARM_1117877-879

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

# ATTACHMENT 2.0

1470. QCVARM_1117880-883	1505. QCVARM_1118089-092
1471. QCVARM_1117884-887	1506. QCVARM_1118093-096
1472. QCVARM_1117891-894	1507. QCVARM_1118097-099
1473. QCVARM_1117898-900	1508. QCVARM_1118100-103
1474. QCVARM_1117901-904	1509. QCVARM_1118104-107
1475. QCVARM_1117905-908	1510. QCVARM_1118115
1476. QCVARM_1117909-912	1511. QCVARM_1118116
1477. QCVARM_1117934-937	1512. QCVARM_1118146-147
1478. QCVARM_1117938-941	1513. QCVARM_1118463-465
1479. QCVARM_1117942-944	1514. QCVARM_1118481-482
1480. QCVARM_1117948-951	1515. QCVARM_1118510-514
1481. QCVARM_1117956-959	1516. QCVARM_1118515-517
1482. QCVARM_1117960-963	1517. QCVARM_1118518-523
1483. QCVARM_1117971-973	1518. QCVARM_1118524-527
1484. QCVARM_1117977-980	1519. QCVARM_1118528-530
1485. QCVARM_1117981-984	1520. QCVARM_1118531-533
1486. QCVARM_1117985-988	1521. QCVARM_1118534-537
1487. QCVARM_1117989-991	1522. QCVARM_1118538-542
1488. QCVARM_1118003-008	1523. QCVARM_1118543-545
1489. QCVARM_1118009-011	1524. QCVARM_1118546-548
1490. QCVARM_1118012-015	1525. QCVARM_1118549-551
1491. QCVARM_1118016-019	1526. QCVARM_1118552-554
1492. QCVARM_1118020-023	1527. QCVARM_1118555-558
1493. QCVARM_1118024-028	1528. QCVARM_1118559-564
1494. QCVARM_1118029-032	1529. QCVARM_1118565-566
1495. QCVARM_1118036-039	1530. QCVARM_1118596-599
1496. QCVARM_1118040-042	1531. QCVARM_1118617-619
1497. QCVARM_1118043-047	1532. QCVARM_1118760-776
1498. QCVARM_1118051-054	1533. QCVARM_1118779-782
1499. QCVARM_1118055-058	1534. QCVARM_1118787-791
1500. QCVARM_1118059-063	1535. QCVARM_1118795-799
1501. QCVARM_1118064-066	1536. QCVARM_1118800-803
1502. QCVARM_1118067-070	1537. QCVARM_1118820-825
1503. QCVARM_1118081-084	1538. QCVARM_1118832-834
1504. QCVARM_1118085-088	1539. QCVARM_1118836-838

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

# ATTACHMENT 2.0

1540. QCVARM_1118842-843	1575. QCVARM_1119020-022
1541. QCVARM_1118844-851	1576. QCVARM_1119023-024
1542. QCVARM_1118862-864	1577. QCVARM_1119025-026
1543. QCVARM_1118865-866	1578. QCVARM_1119027-029
1544. QCVARM_1118870-871	1579. QCVARM_1119030-031
1545. QCVARM_1118884-888	1580. QCVARM_1119032-033
1546. QCVARM_1118890-891	1581. QCVARM_1119070-071
1547. QCVARM_1118894-895	1582. QCVARM_1119074-075
1548. QCVARM_1118896-897	1583. QCVARM_1119120-022
1549. QCVARM_1118898-899	1584. QCVARM_1119347-352
1550. QCVARM_1118901-902	1585. QCVARM_1120024
1551. QCVARM_1118926-927	1586. QCVARM_1120466
1552. QCVARM_1118928	1587. QCVARM_1120481
1553. QCVARM_1118929-930	1588. QCVARM_1120482-485
1554. QCVARM_1118931	1589. QCVARM_1120486-490
1555. QCVARM_1118933	1590. QCVARM_1120490-495
1556. QCVARM_1118934-936	1591. QCVARM_1120495-496
1557. QCVARM_1118945-946	1592. QCVARM_1120496-497
1558. QCVARM_1118972-973	1593. QCVARM_1120497-534
1559. QCVARM_1118976-977	1594. QCVARM_1120498-535
1560. QCVARM_1118978-979	1595. QCVARM_1120535-539
1561. QCVARM_1118980-981	1596. QCVARM_1120540-545
1562. QCVARM_1118983-985	1597. QCVARM_1120546-547
1563. QCVARM_1118986-987	1598. QCVARM_1120548
1564. QCVARM_1118988-899	1599. QCVARM_1120549
1565. QCVARM_1118990-991	1600. QCVARM_1120550
1566. QCVARM_1118995-996	1601. QCVARM_1120551
1567. QCVARM_1118997	1602. QCVARM_1120552
1568. QCVARM_1118998	1603. QCVARM_1120553
1569. QCVARM_1118999-9000	1604. QCVARM_1120554
1570. QCVARM_1119004	1605. QCVARM_1120555
1571. QCVARM_1119005-007	1606. QCVARM_1120556
1572. QCVARM_1119008-011	1607. QCVARM_1120557
1573. QCVARM_1119015-017	1608. QCVARM_1120558
1574. QCVARM_1119018-019	1609. QCVARM_1120559

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

# ATTACHMENT 2.0

1610. QCVARM_1120560	1645. QCVARM_1120595
1611. QCVARM_1120561	1646. QCVARM_1120596
1612. QCVARM_1120562	1647. QCVARM_1120597
1613. QCVARM_1120563	1648. QCVARM_1120598
1614. QCVARM_1120564	1649. QCVARM_1120599
1615. QCVARM_1120565	1650. QCVARM_1120600
1616. QCVARM_1120566	1651. QCVARM_1120601
1617. QCVARM_1120567	1652. QCVARM_1120602
1618. QCVARM_1120568	1653. QCVARM_1120603
1619. QCVARM_1120569	1654. QCVARM_1120604
1620. QCVARM_1120570	1655. QCVARM_1120605
1621. QCVARM_1120571	1656. QCVARM_1120606
1622. QCVARM_1120572	1657. QCVARM_1120607
1623. QCVARM_1120573	1658. QCVARM_1120608
1624. QCVARM_1120574	1659. QCVARM_1120609
1625. QCVARM_1120575	1660. QCVARM_1120610
1626. QCVARM_1120576	1661. QCVARM_1120611
1627. QCVARM_1120577	1662. QCVARM_1120612
1628. QCVARM_1120578	1663. QCVARM_1120613
1629. QCVARM_1120579	1664. QCVARM_1120614
1630. QCVARM_1120580	1665. QCVARM_1120615
1631. QCVARM_1120581	1666. QCVARM_1120616
1632. QCVARM_1120582	1667. QCVARM_1120617
1633. QCVARM_1120583	1668. QCVARM_1120618
1634. QCVARM_1120584	1669. QCVARM_1120619
1635. QCVARM_1120585	1670. QCVARM_1120620
1636. QCVARM_1120586	1671. QCVARM_1120621
1637. QCVARM_1120587	1672. QCVARM_1120622
1638. QCVARM_1120588	1673. QCVARM_1120623
1639. QCVARM_1120589	1674. QCVARM_1120624
1640. QCVARM_1120590	1675. QCVARM_1120625
1641. QCVARM_1120591	1676. QCVARM_1120626
1642. QCVARM_1120592	1677. QCVARM_1120627
1643. QCVARM_1120593	1678. QCVARM_1120628
1644. QCVARM_1120594	1679. QCVARM_1120629

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

# ATTACHMENT 2.0

1680. QCVARM_1120630	1715. QCVARM 1120665
1681. QCVARM 1120631	1716. QCVARM 1120666
1682. QCVARM_1120632	1717. QCVARM_1120667
1683. QCVARM 1120633	1718. QCVARM 1120668
1684. QCVARM 1120634	1719. QCVARM_1120669
1685. QCVARM 1120635	1720. QCVARM 1120670
1686. QCVARM 1120636	1721. QCVARM 1120671
1687. QCVARM 1120637	1722. QCVARM 1120672
1688. QCVARM 1120638	1723. QCVARM 1120673
1689. QCVARM 1120639	1724. QCVARM 1120674
1690. QCVARM 1120640	1725. QCVARM 1120675
1691. QCVARM 1120641	1726. QCVARM 1120676
1692. QCVARM 1120642	1727. QCVARM 1120677
1693. QCVARM_1120643	1728. QCVARM_1120678
1694. QCVARM_1120644	1729. QCVARM_1120679
1695. QCVARM_1120645	1730. QCVARM_1120680
1696. QCVARM_1120646	1731. QCVARM_1120681
1697. QCVARM_1120647	1732. QCVARM_1120682
1698. QCVARM_1120648	1733. QCVARM_1120683
1699. QCVARM_1120649	1734. QCVARM_1120684
1700. QCVARM_1120650	1735. QCVARM_1120685
1701. QCVARM_1120651	1736. QCVARM_1120686
1702. QCVARM_1120652	1737. QCVARM_1120687
1703. QCVARM_1120653	1738. QCVARM_1120688
1704. QCVARM_1120654	1739. QCVARM_1120689
1705. QCVARM_1120655	1740. QCVARM_1120690
1706. QCVARM_1120656	1741. QCVARM_1120691
1707. QCVARM_1120657	1742. QCVARM_1120692
1708. QCVARM_1120658	1743. QCVARM_1120693
1709. QCVARM_1120659	1744. QCVARM_1120694
1710. QCVARM_1120660	1745. QCVARM_1120695
1711. QCVARM_1120661	1746. QCVARM_1120696
1712. QCVARM_1120662	1747. QCVARM_1120697
1713. QCVARM_1120663	1748. QCVARM_1120698
1714. QCVARM_1120664	1749. QCVARM_1120699

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

# ATTACHMENT 2.0

1750. QCVARM_1120700	1785. QCVARM_1120825-828
1751. QCVARM_1120701	1786. QCVARM_1120829-832
1752. QCVARM_1120702	1787. QCVARM_1120833-835
1753. QCVARM_1120703	1788. QCVARM_1120836-838
1754. QCVARM_1120704	1789. QCVARM_1120839-842
1755. QCVARM_1120705	1790. QCVARM_1120843-846
1756. QCVARM_1120706	1791. QCVARM_1120847-850
1757. QCVARM_1120707	1792. QCVARM_1120851-953
1758. QCVARM_1120708	1793. QCVARM_1120960
1759. QCVARM_1120709	1794. QCVARM_1120961
1760. QCVARM_1120710	1795. QCVARM_1120962-965
1761. QCVARM_1120711	1796. QCVARM_1120966-696
1762. QCVARM_1120712	1797. QCVARM_1120971-973
1763. QCVARM_1120713	1798. QCVARM_1120974-977
1764. QCVARM_1120714	1799. QCVARM_1120979-982
1765. QCVARM_1120715	1800. QCVARM_1120983-986
1766. QCVARM_1120716	1801. QCVARM_1120987-991
1767. QCVARM_1120717	1802. QCVARM_1120994-998
1768. QCVARM_1120718	1803. QCVARM_1120999-1003
1769. QCVARM_1120719	1804. QCVARM_1121004-007
1770. QCVARM_1120720	1805. QCVARM_1121008-012
1771. QCVARM_1120721	1806. QCVARM_1121013-017
1772. QCVARM_1120722	1807. QCVARM_1121018-022
1773. QCVARM_1120723	1808. QCVARM_1121023-027
1774. QCVARM_1120724	1809. QCVARM_1121028
1775. QCVARM_1120725	1810. QCVARM_1121029-032
1776. QCVARM_1120726	1811. QCVARM_1121033-034
1777. QCVARM_1120727	1812. QCVARM_1121035-036
1778. QCVARM_1120728	1813. QCVARM_1121144-146
1779. QCVARM_1120773-784	1814. QCVARM_1121147-149
1780. QCVARM_1120811	1815. QCVARM_1121154-155
1781. QCVARM_1120812-815	1816. QCVARM_1121156-159
1782. QCVARM_1120816-817	1817. QCVARM_1121160-162
1783. QCVARM_1120818-820	1818. QCVARM_1121163-166
1784. QCVARM_1120821-824	1819. QCVARM_1121167-170

#### 

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

# ATTACHMENT 2.0

1820. QCVARM_1121172-175	1855. QCVARM_1121333
1821. QCVARM_1121176-181	1856. QCVARM_1121334
1822. QCVARM_1121182-186	1857. QCVARM_1121335
1823. QCVARM_1121187-191	1858. QCVARM_1121336
1824. QCVARM_1121192-196	1859. QCVARM_1121337
1825. QCVARM_1121198-202	1860. QCVARM_1121338-340
1826. QCVARM_1121203-206	1861. QCVARM_1121341
1827. QCVARM_1121207-210	1862. QCVARM_1121342-343
1828. QCVARM_1121211-212	1863. QCVARM_1121344-345
1829. QCVARM_1121223-226	1864. QCVARM_1121346-347
1830. QCVARM_1121229-233	1865. QCVARM_1121348-349
1831. QCVARM_1121238-240	1866. QCVARM_1121350
1832. QCVARM_1121241	1867. QCVARM_1121351
1833. QCVARM_1121242-243	1868. QCVARM_1121354
1834. QCVARM_1121312	1869. QCVARM_1121359
1835. QCVARM_1121313	1870. QCVARM_1121360-361
1836. QCVARM_1121314	1871. QCVARM_1121362
1837. QCVARM_1121315	1872. QCVARM_1121491
1838. QCVARM_1121316	1873. QCVARM_1121493-496
1839. QCVARM_1121317	1874. QCVARM_1121510-513
1840. QCVARM_1121318	1875. QCVARM_1121514-517
1841. QCVARM_1121319	1876. QCVARM_1121518
1842. QCVARM_1121320	1877. QCVARM_1121519
1843. QCVARM_1121321	1878. QCVARM_1121522-523
1844. QCVARM_1121322	1879. QCVARM_1121528
1845. QCVARM_1121323	1880. QCVARM_1121529-530
1846. QCVARM_1121324	1881. QCVARM_1121531
1847. QCVARM_1121325	1882. QCVARM_1121536-537
1848. QCVARM_1121326	1883. QCVARM_1121538-540
1849. QCVARM_1121327	1884. QCVARM_1121541-673
1850. QCVARM_1121328	1885. QCVARM_1121674-857
1851. QCVARM_1121329	1886. QCVARM_1121930
1852. QCVARM_1121330	1887. QCVARM_1121931
1853. QCVARM_1121331	1888. QCVARM_1121932-990
1854. QCVARM_1121332	1889. QCVARM_1122336-337

# Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 146 of 616 PageID #: 26639

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

# **ATTACHMENT 2.0**

1890. QCVARM_1122338	1925. QCVARM_1122733	
1891. QCVARM_1122342-348	1926. QCVARM_1122735	
1892. QCVARM_1122355-405	1927. QCVARM_1122737	
1893. QCVARM_1122406-414	1928. QCVARM_1151573-577	
1894. QCVARM_1122415-428	1929. QCVARM_1151578-581	
1895. QCVARM_1122429-430	1930. QCVARM_1151582-585	
1896. QCVARM_1122431-433	1931. QCVARM_1151586-590	
1897. QCVARM_1122434-438	1932. QCVARM_1151591-596	
1898. QCVARM_1122439-447	1933. QCVARM_1151597-602	
1899. QCVARM_1122454-459	1934. QCVARM_1151603-607	
1900. QCVARM_1122462-463	1935. QCVARM_1151608-610	
1901. QCVARM_1122464-471	1936. QCVARM_1151611-613	
1902. QCVARM_1122485	1937. QCVARM_1151619	
1903. QCVARM_1122486-488	1938. QCVARM_1151620	
1904. QCVARM_1122489	1939. QCVARM_1151964	
1905. QCVARM_1122490-491	1940. QCVARM_1151965	
1906. QCVARM_1122492	1941. QCVARM_1151966	
1907. QCVARM_1122493-496	1942. QCVARM_3212686-689	
1908. QCVARM_1122504-506	1943. QCVARM_3432839-842	
1909. QCVARM_1122508-512	1944. QCVARM_3522626-628	
1910. QCVARM_1122515-517	1945. QSC2ARMVQC00000592-621	
1911. QCVARM_1122590-651	1946. Expert Report of Dr. Michael Brogioli,	
1912. QCVARM_1122672-675	September 5, 2025	
1913. QCVARM_1122676-677	1947. Expert Report of Patrick F. Kennedy, Ph.D., August 8, 2025	
1914. QCVARM_1122684-687	1948. Deposition of William Abbey, June 26, 2025, and exhibits thereto	
1915. QCVARM_1122696-697		
1916. QCVARM_1122701-712	1949. Deposition of Vivek N. Agrawal, July 11, 2025, and exhibits thereto	
1917. QCVARM_1122713-714		
1918. QCVARM_1122715-716	1950. Deposition of Cristiano R. Amon, July 3, 2025, and exhibits thereto	
1919. QCVARM_1122717-719	1951. 30(b)(6) Deposition of Ziad Ashgar, July 7, 2025,	
1920. QCVARM_1122720-724	and exhibits thereto	
1921. QCVARM_1122725	1952. Deposition of Mohamed Awad, July 29, 2025,	
1922. QCVARM_1122726-728	and exhibits thereto	
1923. QCVARM_1122730	1953. Deposition of Ami Badani, August 1, 2025, and exhibits thereto	
1924. QCVARM_1122731		

# Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 147 of 616 PageID #: 26640

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

### **ATTACHMENT 2.0**

- 1954. Deposition of Akshay Bhatnagar, July 10, 2025, and exhibits thereto
- 1955. Deposition of Aparajita Bhattacharya, July 7, 2025, and exhibits thereto
- 1956. 30(b)(6) Deposition of Ann N.C. Chaplin, July 11, 2025, and exhibits thereto
- 1957. 30(b)(1) and 30(b)(6) Deposition of Larissa Cochron, July 11, 2025, and exhibits thereto
- 1958. 30(b)(6) Deposition of Spencer Collins, June 30, 2025, and exhibits thereto
- 1959. 30(b)(6) Deposition of Lynn Couillard, Vol. I, July 3, 2025, and exhibits thereto
- 1960. Deposition of Mark Dragicevich, June 27, 2025, and exhibits thereto
- 1961. 30(b)(6) Deposition of Jeffrey M. Fonseca, July 9, 2025, and exhibits thereto
- 1962. Deposition of Anupa George, July 30, 2025, and exhibits thereto
- 1963. Deposition of Jeffrey B. Golden, July 3, 2025, and exhibits thereto
- 1964. Deposition of Peter Greenhalgh, July 4, 2025, and exhibits thereto
- 1965. 30(b)(6) Deposition of Richard Grisenthwaite, July 2, 2025, and exhibits thereto
- 1966. Deposition of Rene Haas, July 7, 2025, and exhibits thereto
- 1967. Deposition of Sudeep Holla, June 17, 2025, and exhibits thereto
- 1968. Deposition of John Horley, July 8, 2025, and exhibits thereto
- 1969. 30(b)(1) and 30(b)(6) Deposition of Andrew Howard, July 1, 2025, and exhibits thereto
- 1970. Deposition of Phil Hughes, June 17, 2025, and exhibits thereto
- 1971. 30(b)(6) Deposition of James Jeon, July 11, 2025, and exhibits thereto
- 1972. 30(b)(1) and 30(b)(6) Deposition of Paul Kranhold, July 17, 2025, and exhibits thereto
- 1973. Deposition of Selena LaCroix, August 1, 2025, and exhibits thereto
- 1974. 30(b)(6) Deposition of Durga Malladi, July 10, 2025, and exhibits thereto

- 1975. Deposition of Richard J. Meacham, June 27, 2025, and exhibits thereto
- 1976. Deposition of Dawn Hill Montemagni, August 15, 2025, and exhibits thereto
- 1977. 30(b)(6) Deposition of Pavankumar Mulabagal, July 1, 2025, and exhibits thereto
- 1978. 30(b)(6) Deposition of Jannik W. Nelson, July 10, 2025, and exhibits thereto
- 1979. Deposition of Christopher Patrick, July 2, 2025, and exhibits thereto
- 1980. Deposition of Laura Sand, July 8, 2025, and exhibits thereto
- 1981. 30(b)(1) and 30(b)(6) Deposition of Karthik Shivashankar, June 30, 2025, Vol.1, and exhibits thereto
- 1982. Deposition of Kenneth Siegel, July 4, 2025, and exhibits thereto
- 1983. 30(b)(6) and 30(b)(1) Deposition of Christine Cong Tran, Vol. 1, July 10, 2025, and exhibits thereto
- 1984. Deposition of Jignesh Trivedi, July 9, 2025, and exhibits thereto
- 1985. 30(b)(6) Deposition of Manju Varma, June 24, 2025, and exhibits thereto
- 1986. Deposition of Jean-Francois Vidon, July 1, 2025, and exhibits thereto
- 1987. 30(b)(6) Deposition of Martin Weidmann, June 20, 2025, and exhibits thereto
- 1988. Deposition of Jonathan Weiser, July 11, 2025, and exhibits thereto
- 1989. Deposition of Karl M. Whealton, June 18, 2025, and exhibits thereto
- 1990. Deposition of Gerard R. Williams III, June 25, 2025, and exhibits thereto
- 1991. Deposition of Michael J. Williams, June 27, 2025, and exhibits thereto
- 1992. 30(b)(6) Deposition of Paul Williamson, July 2, 2025, and exhibits thereto
- 1993. Deposition of Kurt Wolf, June 25, 2025, and exhibits thereto
- 1994. Deposition of Ehab Youssef, June 26, 2025, and exhibits thereto

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 148 of 616 PageID #:

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

## **ATTACHMENT 2.0**

- 1995. Complaint, August 31, 2022, Case No. 1:22-cv-01146-MN
- 1996. Plaintiff Arm Ltd.'s Answer and Affirmative Defenses to Defendants Qualcomm Inc., Qualcomm Technologies, Inc., and Nuvia, Inc.'s Amended Counterclaim, November 15, 2022
- 1997. Complaint, April 18, 2024
- 1998. Answering Brief of Defendant-Appellee Qualcomm Incorporated, April 26, 2024, Case No. 3:17-md-02773-JSC
- 1999. Arm v. Qualcomm, Pretrial Conference Transcript, November 20, 2024
- 2000. Arm v. Qualcomm, Trial Transcript, Vol. 1, December 13, 2024
- 2001. Arm v. Qualcomm, Trial Transcript, Vol. 2, December 16, 2024
- 2002. First Amended Complaint, December 16, 2024, and exhibits thereto
- 2003. Arm v. Qualcomm, Bench Trial Transcript, Vol. 1, December 17, 2024
- 2004. Arm v. Qualcomm, Trial Transcript, Vol. 3, December 17, 2024
- 2005. Arm v. Qualcomm, Trial Transcript, Vol. 4, December 18, 2024
- 2006. Arm v. Qualcomm, Trial Transcript, Vol. 5, December 19, 2024
- 2007. Arm v. Qualcomm, Trial Transcript, Vol. 6, December 20, 2024
- 2008. Verdict Form, December 20, 2024, Case No. 1:22-cv-01146-MN
- 2009. Opening Brief in Support of Plaintiff Arm Ltd.'s Motion for Judgment as Matter of Law or a New Trial, January 17, 2025
- 2010. Defendants' Post-Trial Brief Regarding Equitable Defenses, January 29, 2025
- 2011. Scheduling Order, January 31, 2025
- 2012. Plaintiff Arm Ltd.'s Responsive Post-Trial Brief Regarding Equitable Defenses, February 12, 2025
- 2013. Defendants' Reply Brief in Support of Their Post-Trial Brief Regarding Equitable Defenses, February 19, 2025, and exhibit thereto

- 2014. Plaintiffs' Responses and Objections to Defendant's First Set of Interrogatories (Nos. 1-9), March 10, 2025
- 2015. Arm Holding Plc's Objections and Responses to Qualcomm's First Set of Interrogatories (Nos. 1-3), March 24, 2025
- 2016. Arm Holdings PLC's Objections and Responses to Qualcomm's First Set of Interrogatories (Nos. 1-3), March 24, 2025
- 2017. Plaintiffs' Responses and Objections to Defendant's Second Set of Interrogatories (Nos. 10-13), May 9, 2025
- 2018. ARM Ltd.'s First Supplemental Objections and Responses to Qualcomm's Fifth Set of Interrogatories (Nos. 26-28), May 10, 2024
- 2019. Arm Holdings PLC's Objections and Responses to Qualcomm's Amended Interrogatory No. 3, May 12, 2025
- 2020. Second Amended Complaint, June 3, 2025, and exhibit thereto
- 2021. Arm's Rule 26(a)(1) Second Supplemental Initial Disclosures, June 12, 2025
- 2022. Plaintiffs' Supplemental Initial Disclosures, June 13, 2025
- 2023. Arm's Objections and Responses to Qualcomm's Second Set of Interrogatories (Nos. 4-11), June 16, 2025
- 2024. Arm's Rule 26(a)(1) Third Supplemental Initial Disclosures, June 16, 2025
- 2025. Arm's First Supplemental Response to Qualcomm's Amended Interrogatory No. 3, June 18, 2025
- 2026. Plaintiffs' Responses and Objections to Arm Ltd.'s First Notice of Deposition of Qualcomm Inc., and Qualcomm Technologies, Inc., June 23, 2025
- 2027. Plaintiffs' First Supplemental Responses and Objections to Defendant's First Set of Interrogatories (Nos. 1-4, 7, and 9), June 25, 2025
- 2028. Arm's Objections and Responses to Qualcomm's Third Set of Interrogatories (No. 12), July 9, 2025
- 2029. Arm Holdings PLC's First Supplemental Objections and Responses to Qualcomm's First Set of Interrogatories (Nos. 1-3), July 11, 2025

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

## **ATTACHMENT 2.0**

- 2030. Arm's First Supplemental Objections and Responses to Qualcomm's Second Set of Interrogatories (Nos. 4-11), July 11, 2025
- 2031. Arm's First Supplemental Responses to Qualcomm's Amended Interrogatory No. 3, July 11, 2025
- 2032. Arm's First Supplemental Responses to Qualcomm's Third Set of Interrogatories (No. 12), July 11, 2025
- 2033. Arm's Responses & Objections to Qualcomm's First Set of Request for Admissions (Nos. 1-28), July 11, 2025
- 2034. Plaintiffs' Responses and Objections to Defendant's First Set of Requests for Admissions (Nos. 1-30), July 11, 2025
- 2035. Plaintiffs' Responses and Objections to Defendant's Third Set of Interrogatories (Nos. 14-24), July 11, 2025
- 2036. Plaintiffs' Supplemental Responses and Objections to Defendant's First Set of Interrogatories (Nos. 10-13), July 11, 2025
- 2037. Plaintiffs' Supplemental Responses and Objections to Defendant's First Set of Interrogatories (Nos. 1-9), July 11, 2025
- 2038. Plaintiffs' Supplemental Responses and Objections to Defendant's Second Set of Interrogatories (Nos. 10-13), July 11, 2025
- 2039. Plaintiffs' First Supplemental Responses and Objections to Defendant's Third Set of Interrogatories (Nos. 14-24), August 8, 2025
- 2040. Plaintiffs' Second Supplemental Responses and Objections to Defendant's Second Set of Interrogatories (Nos. 10-13), August 8, 2025
- 2041. Plaintiffs' Third Supplemental Responses and Objections to Defendant's First Set of Interrogatories (Nos. 1-9), August 8, 2025
- 2042. "About Nordic Semiconductor," Nordic, date accessed: September 3, 2025 (accessed: https://www.nordicsemi.com/About-us)
- 2043. "About Qualcomm Company Information & History," Qualcomm, date accessed: August 29, 2025 (accessed: https://www.qualcomm.com/company#locations)
- 2044. "About Silicon Labs," Silicon Labs, date accessed: September 3, 2025 (accessed: https://www.silabs.com/about-us)

- 2045. "Amlogic," Amlogic, date accessed: September 2, 2025 (accessed: https://www.amlogic.com/#Company)
- 2046. "Arm Architecture for the Digital World," Arm, date accessed: August 29, 2025 (accessed: https://www.arm.com/architecture)
- 2047. "ARM Global Offices," Arm, date accessed: July 10, 2025 (accessed: https://www.arm.com/company/offices)
- 2048. "Arm Total Access," Arm, date accessed: August 28, 2025 (accessed: https://www.arm.com/products/licensing/arm-total-access)
- 2049. "Business Overview," Renesas, date accessed: September 1, 2025 (accessed: https://www.renesas.com/en/about/profile/busines s)
- 2050. "Company," Arm, date accessed: July 10, 2025 (accessed: https://www.arm.com/company)
- 2051. "CPU Cores Explained: How Many Do You Need?," HP, date accessed: July 30, 2025 (accessed: https://www.hp.com/us-en/shop/tech-takes/cpu-cores-how-many-do-i-need?cjdata=MXxOfDB8WXww&utm\_medium=af&utm\_source=cj&utm\_campaign=Microsoft+Shopping+%28Bing+Rebates%2C+Coupons%2C+etc.%29&utm\_content=5250933\_Microsoft+Shopping+%28Bing+Rebates%2C+Coupons%2C+etc.%29\_100357191&cjevent=2f013fec6d7311f081bd01750a18b8fc&subacctname=Microsoft+Shopping+%28Bing+Rebates%2C+Coupons%2C+etc.%29)
- 2052. "Embedded Trace Extension," Arm, date accessed: September 3, 2025 (accessed: https://developer.arm.com/documentation/102856/0100/Embedded-Trace-Extension)
- 2053. "Headquarters," Qualcomm, date accessed: August 29, 2025 (accessed: https://www.qualcomm.com/company/facilities/o ffices?country=USA&hQ=true)
- 2054. "Home," Augentix, date accessed: September 3, 2025 (accessed: https://www.augentix.com/)
- 2055. "Intel and AMD are unlikely allies in new x86 ecosystem advisory group 'we'll remain fierce competitors," Tom's Hardware, date accessed: August 1, 2025 (accessed: https://www.tomshardware.com/pc-components/cpus/intel-and-amd-forge-x86-

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

## **ATTACHMENT 2.0**

- ecosystem-advisory-group-that-aims-to-ensure-aunified-isa-moving-forward#xenforo-comments-3857628)
- 2056. "Intel vs AMD vs Qualcomm: Who's Leading the CPU War in 2025," Business Economy, date accessed: July 31, 2025 (accessed: https://www.businesseconomy.com/technology/in tel-vs-amd-vs-qualcomm-whos-leading-the-cpuwar-in-2025/)
- 2057. "Learn the architecture Understanding the Armv8.x and Armv9.x extensions," Arm, date accessed: August 1, 2025 (accessed: https://documentation-service.arm.com/static/663e39db9007496a66f744 81)
- 2058. "Markets," Arm, date accessed: September 2, 2025 (accessed: https://www.arm.com/markets)
- 2059. "MediaTek. Living in a connected world,"
  MediaTek, date accessed: September 1, 2025
  (accessed:
  https://www.mediatek.com/company/discover)
- 2060. "Microprocessor Cores and Processor Technology - Arm®," Arm, date accessed: August 27, 2025 (accessed: https://www.arm.com/products/silicon-ip-cpu)
- 2061. "Microsoft is Intel's newest chip foundry customer," Manufacturing Dive, date accessed: August 31, 2025 (accessed: https://www.manufacturingdive.com/news/micros oft-intel-newest-chip-foundry-customer-18a-technology/708953/)
- 2062. "Our Company, Qualcomm, date accessed: August 29, 2025 (accessed: https://www.qualcomm.com/company)
- 2063. "Product," Augentix, date accessed: September 3, 2025 (accessed: https://www.augentix.com/product)
- 2064. "Products," Silicon Labs, date accessed: September 3, 2025 (accessed: https://www.silabs.com/products)
- 2065. "Qualcomm Acquires NUVIA To Accelerate Its Future CPUs With Support From 18 Partners," Forbes, date accessed: July 28, 2025 (accessed: https://www.forbes.com/sites/patrickmoorhead/20 21/01/13/qualcomm-acquires-nuvia-to-accelerate-its-future-cpus-with-support-from-18-partners/)

- 2066. "Reality Labs," Meta, date accessed: August 28, 2025 (accessed: https://tech.facebook.com/reality-labs/)
- 2067. "Realtek in Brief," RealTek, date accessed:
  September 3, 2025 (accessed:
  https://www.realtek.com/Article/Index?menu\_id=
  306&lang=en-GB).
- 2068. "RISC-V's Ascent Could Reshape The Global Compute Landscape," Forbes, July 24, 2025, date accessed: July 31, 2025 (accessed: https://www.forbes.com/sites/davealtavilla/2025/ 07/24/risc-vs-ascent-could-reshape-the-globalcompute-landscape/)
- 2069. "Snapshot," RealTek, date accessed: September 3, 2025 (accessed: https://www.realtek.com/Article/Index?menu\_id= 305&lang=en-GB).
- 2070. "System Architecture Compliance Suites (ACS)," Arm, date accessed: September 3, 2025 (accessed: https://developer.arm.com/Architectures/Architectural%20Compliance%20Suite)
- 2071. "System Processors," Qualcomm, date accessed: August 29, 2025 (accessed: https://www.qualcomm.com/products/system-processors)
- 2072. "Technological Strengths," RealTek, date accessed: September 3, 2025 (accessed: https://www.realtek.com/Article/Index?menu\_id= 308&lang=en-GB).
- 2073. "The Basics of Instruction Set Architecture,"
  Lenovo, date accessed: August 26, 2025
  (accessed:
  https://www.lenovo.com/us/en/glossary/instructio
  n-setarchitecture/?orgRef=https%253A%252F%252F
  www.bing.com%252F)
- 2074. "The Official History of Arm," Arm Newsroom, date accessed: August 29, 2025 (accessed: https://newsroom.arm.com/blog/arm-official-history)
- 2075. "The Rise of Licensed IP In Edge AI and Smart Device Manufacturing," Forbes, date accessed: August 28, 2025 (accessed: https://www.forbes.com/councils/forbestechcouncil/2025/08/28/why-the-next-wave-of-ai-innovation-wont-be-built-from-scratch/)

Qualcomm Inc. and Qualcomm Technologies, Inc. v. ARM Holdings PLC., f/k/a ARM LTD.

## **ATTACHMENT 2.0**

- 2076. "The Shift to Custom Silicon: Why Companies Are Designing Their Own Chips," Nasdaq, date accessed: August 28, 2025 (accessed: https://www.nasdaq.com/articles/shift-custom-silicon-why-companies-are-designing-their-own-chips)
- 2077. "Welcome to MediaTek," MediaTek, date accessed: September 1, 2025 (accessed: https://www.mediatek.com/)
- 2078. "What is a System-on-Chip (SoC)?," Windows Central, date accessed: July 30, 2025 (accessed: https://www.windowscentral.com/hardware/lapto ps/what-is-a-system-on-chip-soc)
- 2079. "What is Instruction Set Architecture (ISA)," Arm, date accessed: July 11, 2025 (accessed: https://www.arm.com/glossary/isa)
- 2080. "What Is SoC Development?," Arm, date accessed: July 30, 2025 (accessed: https://www.arm.com/glossary/soc-development)
- 2081. "What we do," Texas Instruments, date accessed: September 1, 2025 (accessed: https://www.ti.com/about-ti/company/what-we-do.html)
- 2082. "With a systems approach to chips, Microsoft aims to tailor everything 'from silicon to service' to meet AI demand," Microsoft, date accessed: August 31, 2025 (accessed: https://news.microsoft.com/source/features/ai/inhouse-chips-silicon-to-service-to-meet-aidemand/?msockid=11a74f0a53d86fdf16855cf652 706eb3)
- 2083. "2024 Business Report for the year ended December 31, 2024," Samsung Electronics Co., Ltd., date accessed: September 1, 2025 (accessed: https://images.samsung.com/is/content/samsung/assets/global/ir/docs/2024\_4Q\_Interim\_Report.pdf)
- 2084. "Annual Report 2024," Infineon Technologies AG, date accessed: August 31, 2025 (accessed: https://www.infineon.com/assets/row/public/documents/corporate/investors/annual-reports/2024/2024-infineon-annual-report-01-00-en.pdf)
- 2085. "Annual Report 2024," Microsoft, date accessed: August 31, 2025 (accessed: https://www.microsoft.com/investor/reports/ar24/?msockid=11a74f0a53d86fdf16855cf652706eb3)

- 2086. "NEC, Annual Report 2010," NEC.com, date accessed: August 25, 2025 (accessed: https://www.nec.com/en/global/ir/pdf/annual/2010/ar2010-e.pdf)
- 2087. Arm Holdings plc Form 20-F for the fiscal year ended March 31, 2025
- 2088. Infineon Technologies AG Annual Report 2020, Infineon, date accessed: August 29, 2025 (accessed: https://www.infineon.com/assets/row/public/documents/corporate/investors/annual-report-report-v10-00-en.pdf)
- 2089. Qualcomm Incorporated Form 10-k for the fiscal year ended September 29, 2024, date accessed: September 1, 2025 (accessed: https://s204.q4cdn.com/645488518/files/doc\_fina ncials/2024/q4/QCOM-09-29-24-FY2024-10-K.pdf)
- 2090. "Semiconductors: Technology and Market Primer 13.0," Oppenheimer Equity Research Industry Update
- 2091. All documents provided in the Relativity database
- 2092. All documents cited in my report and the attachments thereto

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 152 of 616 PageID #: 26645

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 153 of 616 PageID #: 26646

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 154 of 616 PageID #: 26647

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 155 of 616 PageID #: 26648

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 156 of 616 PageID #: 26649

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 157 of 616 PageID #: 26650

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 158 of 616 PageID #: 26651

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 159 of 616 PageID #: 26652

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 160 of 616 PageID #: 26653

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 161 of 616 PageID #: 26654

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 162 of 616 PageID #: 26655

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 163 of 616 PageID #: 26656

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 164 of 616 PageID #: 26657

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 165 of 616 PageID #: 26658

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 166 of 616 PageID #: 26659

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 167 of 616 PageID #: 26660

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 168 of 616 PageID #: 26661

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 169 of 616 PageID #: 26662

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 170 of 616 PageID #: 26663

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 171 of 616 PageID #: 26664

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 172 of 616 PageID #: 26665

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 173 of 616 PageID #: 26666

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 174 of 616 PageID #: 26667

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 175 of 616 PageID #: 26668

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 176 of 616 PageID #: 26669

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 177 of 616 PageID #: 26670

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 178 of 616 PageID #: 26671

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 179 of 616 PageID #: 26672

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 180 of 616 PageID #: 26673

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 181 of 616 PageID #: 26674

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 182 of 616 PageID #: 26675

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 183 of 616 PageID #: 26676

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 184 of 616 PageID #: 26677

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 185 of 616 PageID #: 26678

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 186 of 616 PageID #: 26679

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 187 of 616 PageID #: 26680

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 188 of 616 PageID #: 26681

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 189 of 616 PageID #: 26682

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 190 of 616 PageID #: 26683

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 191 of 616 PageID #: 26684

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 192 of 616 PageID #: 26685

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 193 of 616 PageID #: 26686

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 194 of 616 PageID #: 26687

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 195 of 616 PageID #: 26688

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 196 of 616 PageID #: 26689

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 197 of 616 PageID #: 26690

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 198 of 616 PageID #: 26691

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 199 of 616 PageID #: 26692

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 200 of 616 PageID #: 26693

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 201 of 616 PageID #: 26694

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 202 of 616 PageID #: 26695

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 203 of 616 PageID #: 26696

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 204 of 616 PageID #: 26697

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 205 of 616 PageID #: 26698

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 206 of 616 PageID #: 26699

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 207 of 616 PageID #: 26700

## EXHIBIT 19

IN THE UNITED STATES DISTRICT COURT		
FOR THE DISTRICT OF DELAWARE		
C.A. No. 24-490-MN		
QUALCOMM INCORPORATED, a Delaware		
corporation, QUALCOMM TECHNOLOGIES, INC.,		
a Delaware corporation,		
Plaintiffs,		
- against -		
ARM HOLDINGS PLC, f/k/a ARM LTD., a U.K.		
corporation		
Defendant.		
х		
October 3, 2025		
9:02 a.m.		
*HIGHLY CONFIDENTIAL*		
VIDEOTAPED DEPOSITION of THOMAS		
BRITVEN, held at the offices of PAUL WEISS		
RIFKIND WHARTON & GARRISON, LLP, located at		
1285 Avenue of the Americas, New York, New		
York 10019, before Anthony Giarro, a		
Registered Professional Reporter, a Certified		
Realtime Reporter and a Notary Public of the		
State of New York.		
	FOR THE DISTRICT OF DELAWARE  C.A. No. 24-490-MN	FOR THE DISTRICT OF DELAWARE  C.A. No. 24-490-MN

Page 3	Q	Page 40
1 THOMAS BRITVEN HIGHLY CONFIDENTIA		THOMAS BRITVEN HIGHLY CONFIDENTIAL
2 Q Anything else?	2	A I asked the lawyers to go
3 A No.		ahead
	4	
•		MR. EVANGELATOS: If you're
5 report that you would like to correct?	5	going to discuss something with
6 A Yes.	6	counsel, I'm going to instruct you
7 Q What is it?	7	not to reveal that.
8 A Somewhere in my report,	8	THE WITNESS: Okay.
9 there's a reference to a request by ARM	9	MR. EVANGELATOS: You can
10 to Qualcomm for some additional	10	speak to any conversations you had
11 information. That is not correct.	11	with witnesses in the course of
12 Q Can you explain what you're	12	preparing your report.
13 referring to?	13	THE WITNESS: Yeah.
14 A Well, it's kind of a	14	MR. EVANGELATOS: And your
15 straight comment. There's no citing to	15	team.
16 it. And how can I think about this?	16	MS. ZAPPALA: Well, I think
17 In connection with the licensing of	17	if conversations with counsel relate
, I have a whole	18	to information on which Mr. Britven
19 section that describes the exchange or	19	is opining, which he certainly just
20 lack of exchange between Qualcomm and	20	said, then that's discoverable.
21 ARM.	21	MR. EVANGELATOS: I'm going
22 Elsewhere, I have this	22	to instruct him not to answer and
23 comment that says that ARM requested	23	reveal conversations he had with
24 information from Qualcomm. But I've been	24	counsel. If he can talk about an
25 really specific to the expected use of	25	interview he conducted or if he spoke
THOMAS BRITVEN HIGHLY CONFIDENTIAL  I haven't able  to confirm that.  Q I want to make sure I'm	2 3 4	THOMAS BRITVEN HIGHLY CONFIDENTIAL with a witness, then that's discoverable. But I'm not going to let him talk about what he talked
5 understanding.	5	about with counsel.
6 So in your report, you said	6	Q Is there any basis for your
7 that ARM asked Qualcomm for information	7	statement that you are not able to
8 about the expected use of	8	confirm that ARM asked Qualcomm for
; correct?	9	information about
10 A Yes. So that was the		other than conversations with
11 general process that they follow. And I	11	counsel?
12 think we erroneously said that that was	12	MR. EVANGELATOS: Again, not
13 the circumstance here. But upon	13	to reveal anything you may have
14 follow-up, I can't get anyone to recall	14	discussed with attorneys.
15 them doing that specifically in this	15	A I'm not sure.
16 case. They do generally. And they've	16	Q You don't know?
17 done that in the past but not in this	17	A I'm not sure.
18 particular circumstance. And so that one	18	Q Can you identify for me the
19 little sentence just needs to be		source, other than counsel, which is the
20 modified.		
		basis for your statement that you are not
21 Q And you said upon follow-up,		able to confirm that ARM asked Qualcomm
22 I can't get anyone to recall them doing		for information about the expected use of
23 that specifically in this case.	23	?
What follow-up are you	24	A I'm not sure.
25 referring to?	25	Q You don't know?

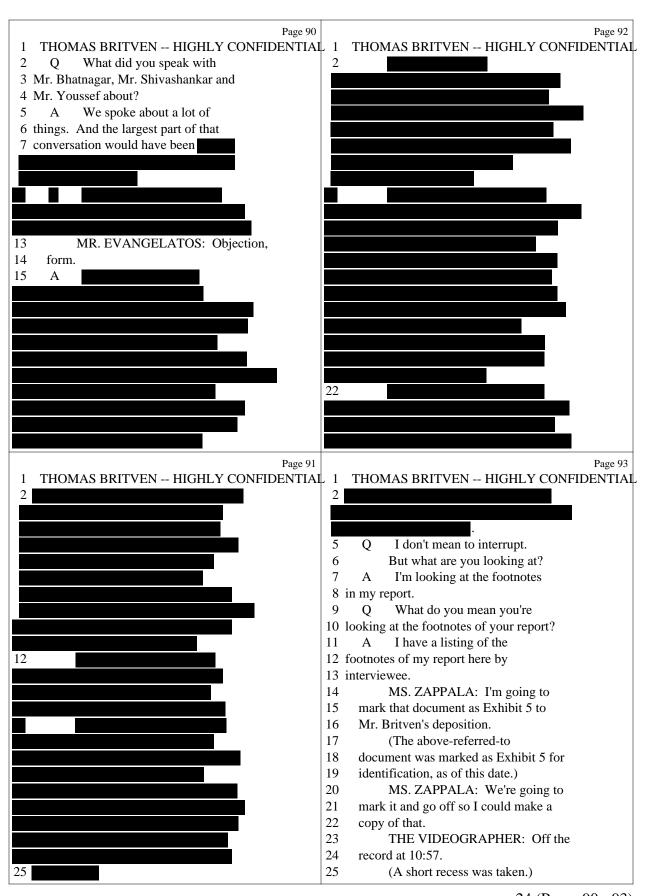
11 (Pages 38 - 41)

	Page 50		Page 52
1	THOMAS BRITVEN HIGHLY CONFIDENTIAL	. 1	THOMAS BRITVEN HIGHLY CONFIDENTIAL
2	Q Which parts of the report	2	A I'll be following advice of
3		3	counsel.
4		4	Q Do you currently have any
5	-	5	opinions related to these new license
6		6	agreements?
7		7	A No final opinions, no.
8	,	8	Q Do you have any non-final
	right now?	9	opinions?
10	-	10	MR. EVANGELATOS: To the
	112-page report if you'd like.	11	extent that gets into anything you
12		12	may have discussed with attorneys,
	report, are you able to identify for me	13	I'm going to instruct you not to
	what sections your team might be working	14	answer that.
	on updating?	15	A I don't have any modified or
16		-	new opinions at this point. It's all
	they're doing Table 6.1.		-
18	•	18	Q Now, after you served your
19	~		report on September 5, Qualcomm served
	my team is doing specifically relative to		some additional expert reports; right?
	the license agreements in terms of	21	A Yes.
	updating the report?	22	Q Did you review any of those
23			reports?
24	-	24	A Yes.
	doing, if anything, beyond what I	25	Q Which ones?
	Page 51 THOMAS BRITVEN HIGHLY CONFIDENTIAL described relative to the report. They	2	Page 53 THOMAS BRITVEN HIGHLY CONFIDENTIAL A The report of Dr. Kennedy,
	are looking at the agreements.		for example.
4	, ,	4	Q Any others?
	at the agreements?	5	A I have some technical expert
6	, , , , , , , , , , , , , , , , , , ,		reports. I don't remember the names
	So as new information comes in, we make		specifically. I probably looked at
	it part of the ongoing study. And I make		something beyond Kennedy. But I
	reference to that in the report, that my		certainly looked at Kennedy.
	analysis are based on the current record.	10	Q Did you form any opinion in
	The record continues to evolve. And we		connection with Dr. Kennedy's report?
	continue to receive information and		And to be clear, I'm referring to the one
	perform work.		served after your report.
14	•	14	A Right. I think I have some
	license agreements with anyone at ARM?		observations regarding his work in his
16			reply report.
17		17	Q Do you intend to offer
	discussed these new license agreements		anything about these observations at
18			trial in this case?
18 19	with anyone at ARM?		A I don't know.
18 19 20	A Not that I'm aware of.	20	
18 19 20 21	A Not that I'm aware of. Q Have you discussed these new	21	Q Can you tell me what these
18 19 20 21 22	A Not that I'm aware of. Q Have you discussed these new license agreements with counsel?	21 22	Q Can you tell me what these observations are?
18 19 20 21 22 23	A Not that I'm aware of. Q Have you discussed these new license agreements with counsel? MR. EVANGELATOS: I'm going	21 22 23	Q Can you tell me what these observations are? MR. EVANGELATOS: Objection,
18 19 20 21 22	A Not that I'm aware of. Q Have you discussed these new license agreements with counsel? MR. EVANGELATOS: I'm going to instruct you not to answer that	21 22	Q Can you tell me what these observations are?

14 (Pages 50 - 53)

Page 8	6 Page 88
1 THOMAS BRITVEN HIGHLY CONFIDENTIA	- 1
2 You see that?	2 A Once.
3 A Yes.	3 Q Did you speak with them
4 Q And then you list interviews	- I
	4 separately at any point? 5 A No.
6 A Yes.	6 Q When did you speak with
7 Q Did you personally	7 Mr. Shivashankar, Mr. Youssef and
8 participate in the interviews listed	8 Mr. Bhatnagar collectively?
9 here?	9 A I don't remember the exact
10 A Yes.	10 date. It would have been likely late
11 Q You personally participated	11 August, second half of August, somewhere
12 in every interview with Akshay Bhatnagar?	12 in there. I don't remember the exact
13 A Yes.	13 date.
14 Q And you personally	14 Q How long was your
15 participated in every interview with Dr.	15 conversation with the three of them,
16 Michael Brogioli?	16 collectively?
17 A Yes.	17 A I don't remember exactly.
18 Q And Mr. Fonseca?	18 But I estimate an hour, maybe a little
19 A Yes.	19 more.
20 Q And Mr. Shivashankar?	20 Q Other than you and these
21 A Yes.	21 three individuals, was anyone else
22 Q And Mr. Youssef?	22 present for this conversation?
23 A Yes.	23 A Yes.
24 Q Did any of those working	24 Q Who?
25 with you talk to any of these individuals	25 A My team members and counsel.
Page 8 1 THOMAS BRITVEN HIGHLY CONFIDENTIA	- 1
2 without you being present?	2 Q Which team members?
3 A Not to my knowledge.	3 A I believe Robin Heider and
4 Q Did you talk to these	4 Doug Ellis. But I'm not sure I'm not
5 individuals separately or altogether?	5 exactly sure on Doug Ellis. But I know
6 A It depends.	6 Heider was there.
7 Q What do you mean by that?	7 Q And which counsel are you
8 A Well, I think your question	8 referring to?
9 asked me if in one circumstance, I talked	9 A No. Doug Ellis was there,
10 to all five of these people at the same	10 yes. Doug Ellis was there; Robin Heider
11 time. I didn't do that. But there is a	11 was there; I was there.
12 group of them I did speak with	12 Q What counsel was present?
13 collectively.	13 A Hard to recall. Counsel
14 Q Who did you speak with	14 from Kirkland & Ellis.
15 collectively?	15 Q Do you have any notes of the
16 A Bhatnagar, Shivashankar and	16 conversation you had with these three
17 Youssef. Those would have been	17 individuals?
	17 individuals? 18 A I don't recall.
18 interviews collectively performed at the	
19 same time.	19 Q Did you personally take any
20 Q So you spoke with	20 notes?
21 Mr. Bhatnagar, Mr. Shivashankar and	21 A I may have. I don't
22 Mr. Youssef together?	22 specifically recall.
23 A Correct.	23 Q Do you know if anyone on
24 Q How many times did you speak	24 your team took any notes?
25 with them together?	25 A I don't know.

23 (Pages 86 - 89)



24 (Pages 90 - 93)

Pr 04	Prove Of
Page 94  1 THOMAS BRITVEN HIGHLY CONFIDENTIAI	Page 96 L 1 THOMAS BRITVEN HIGHLY CONFIDENTIAL
2 THE VIDEOGRAPHER: On the	2 A That assumes that there are
3 record 11:08. Please proceed.	3 statements that only came from one
4 Q Mr. Britven, I am looking at	4 person. But regardless of how I
5 Exhibit 5 which is entitled at the top,	5 interpret your question, the interview
-	6 occurred simultaneously. And that's the
6 Interviews Relied Upon-Mr. Akshay	
7 Bhatnagar. You see that? 8 A Yes.	7 way it's reflected in the report.
	8 Q Well, if you look at page 1
9 Q Can you tell me what is this 10 document that is Exhibit 5?	9 in Exhibit 5, the first five pages are 10 entitled Interviews Relied
11 A This is information that's	11 Upon-Mr. Akshay Bhatnagar. You see that?
12 contained in my report. It's just	12 A Yes.
13 organized in a different way. So it's	13 Q And then if you flip down, I
14 the same information. So every time I	14 don't know what number because they're
15 reference this interview, you know, I	15 not all paginated, but there's another
16 have various interviews throughout the	16 section called Interview Relied
17 report, this simply accumulates those	17 Upon-Mr. Karthik Shivashankar. You see
18 interviews by interviewee and puts them	18 that?
19 in one place. So it makes it easier to	19 A Yes.
20 find.	20 Q So therefore, you identify
21 Q You see the middle column,	21 different statements made by these
22 it says "Statement"?	22 different individuals in different parts
23 A Yes.	23 of your notes; correct?
24 Q Are all of these statements	24 A Not I wouldn't describe
25 included in your report?	25 it that way. That's just the way the
Page 95	Page 97
1 THOMAS BRITVEN HIGHLY CONFIDENTIAL	
2 A Yes.	2 formatting occurs here. So I think if
3 Q Verbatim?	3 you look at the report and you look at
4 A Yes. They're cut and paste.	4 that statement, you'd see the three
5 Q If you see here on the	5 interviewees referenced; all right? And
6 left-hand column, there's a statement,	6 the purpose of Exhibit 5 is to show the
7 interviewee, and then there's a singular	7 statements by person.
8 name under here that says	8 So that statement is
9 "Mr. Bhatnagar."	9 attributable to all three. And
10 You see that?	10 therefore, when you list it out by
11 A Yes.	11 person, it appears under each person's
12 Q Do any of the footnotes of	12 name. That's the way Exhibit 5 is
13 your report identify statements coming	13 developed.
14 solely from Mr. Bhatnagar?	14 Q Does Exhibit 5 include the
15 A I don't believe so. I think	15 universe of everything that you spoke
16 the statements for those three are all	16 with Mr. Bhatnagar, Mr. Shivashankar and
17 the same because I interviewed them	17 Mr. Youssef about?
18 simultaneously. So that's how the	18 A They certainly encompassed
19 interview occurred.	19 the universe of all of the referenced
20 Q So you interviewed them	20 items in the report. Do we talk about
21 simultaneously, but you did not in your	21 other things that didn't make it into the
22 report identify which statements came	22 report; is that your question?
23 specifically from Mr. Bhatnagar as	23 Q Sure.
24 opposed to Mr. Shivashankar or	24 A Okay.
25 Mr. Youssef?	25 Probably. I don't remember
	J

25 (Pages 94 - 97)

Page 98 Page 100 1 THOMAS BRITVEN -- HIGHLY CONFIDENTIAL 1 THOMAS BRITVEN -- HIGHLY CONFIDENTIAL 2 what they are. But it'd be unlikely that 2 were speaking with you? 3 everything we talked about, including 3 A Hard to say. 4 what day of the week it is and the 4 O You don't know for sure? 5 weather, is in the report and 5 A Yeah. I don't know if I 6 correspondingly, in the footnotes. 6 remember well enough. And I don't And you may have said this, 7 remember the angle of the camera and all 8 but can you remind me who created 8 those things. 9 Exhibit 5? O Do you recall them saying 10 A One of my team members. 10 anything about looking at any documents 11 while on the phone with you? 11 Q And Exhibit 5 is not I don't recall, one way or 12 attached to your report; correct? 12 Α 13 Well, it's subsumed within a 13 the other. 14 body of the report. But Exhibit 5 per se Earlier, you mentioned a 14 Q 15 is not attached in this organized matter. 15 spreadsheet? 16 But here again, it comes from. And it's 16 Α Yes. 17 the same information that's contained in 17 Q Did this spreadsheet come up 18 on your call with Mr. Bhatnagar, 18 the report. 19 19 Mr. Shivashankar and Mr. Youssef? Q Are there any other 20 documents that you brought with you today 20 Α 21 to the deposition that are not attached 21 O Tell me what was discussed 22 to your report, but are relevant to your 22 about this spreadsheet. 23 report? 23 Α 24 A What do you mean by relative 25 to the report? Page 99 1 THOMAS BRITVEN -- HIGHLY CONFIDENTIAL 1 THOMAS BRITVEN -- HIGHLY CONFIDENTIAL 2 Well, Exhibit 5 is something 3 I've never seen before. But you brought

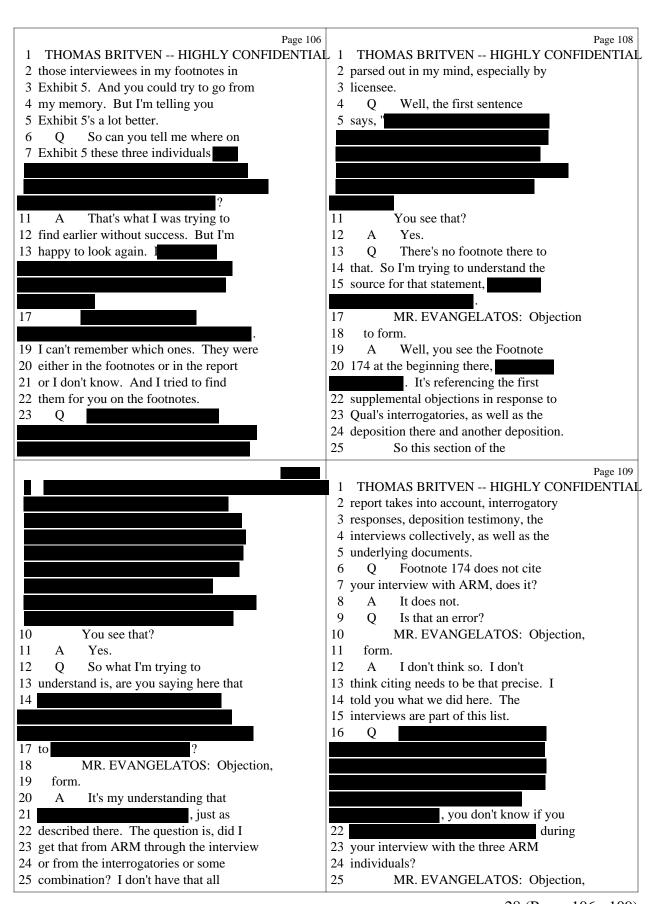
Page 101

- 4 today to facilitate your testimony.
- Are there any other
- 6 documents that you brought with you today
- 7 to facilitate your testimony so we don't
- 8 have to stop and do this again?
- 9 Α No. I just brought these
- 10 two things.
- When you say two things, 11
- 12 what do you mean?
- My report and the interviews 13 Α
- 14 relied upon.
- When you spoke with
- 16 Mr. Bhatnagar, Mr. Shivashankar and
- 17 Mr. Youssef, was it a Zoom meeting? Was
- 18 it a video conference?
- 19 Α It was a video conference.
- Were they looking at any
- 21 notes when they were on the phone with
- 22 you?
- 23 A I don't know.
- 24 Q Were they looking at
- 25 anything on their computers when they

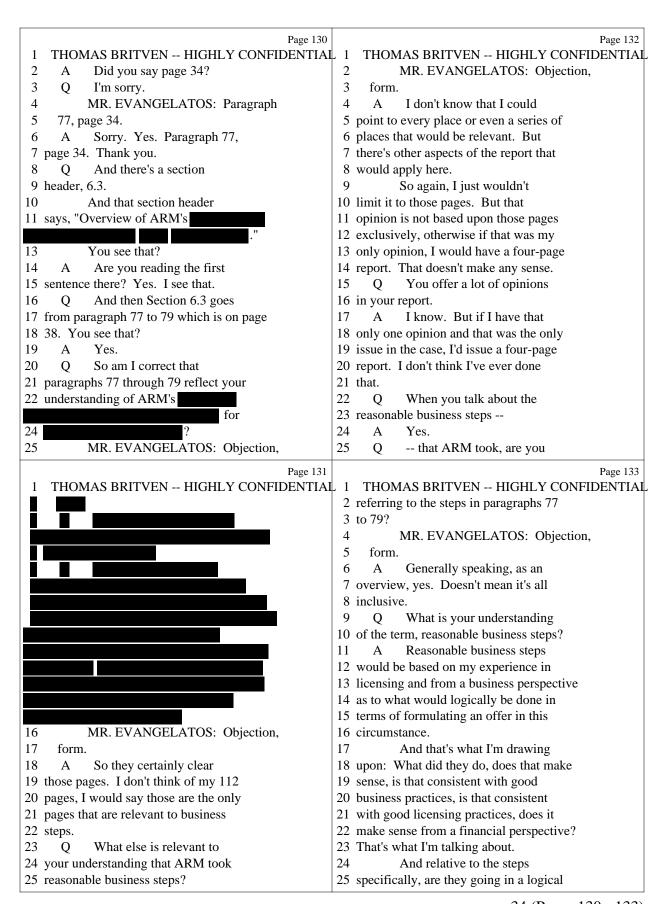


- Were any of the individuals
- 19 on the call with you looking at the
- 20 spreadsheet when they were talking to
- 21 you?
- 22 Α I don't know.
- 23 Q Can you tell me more about
- 24 what they said was on the spreadsheet?
- Well. I think that's

26 (Pages 98 - 101)



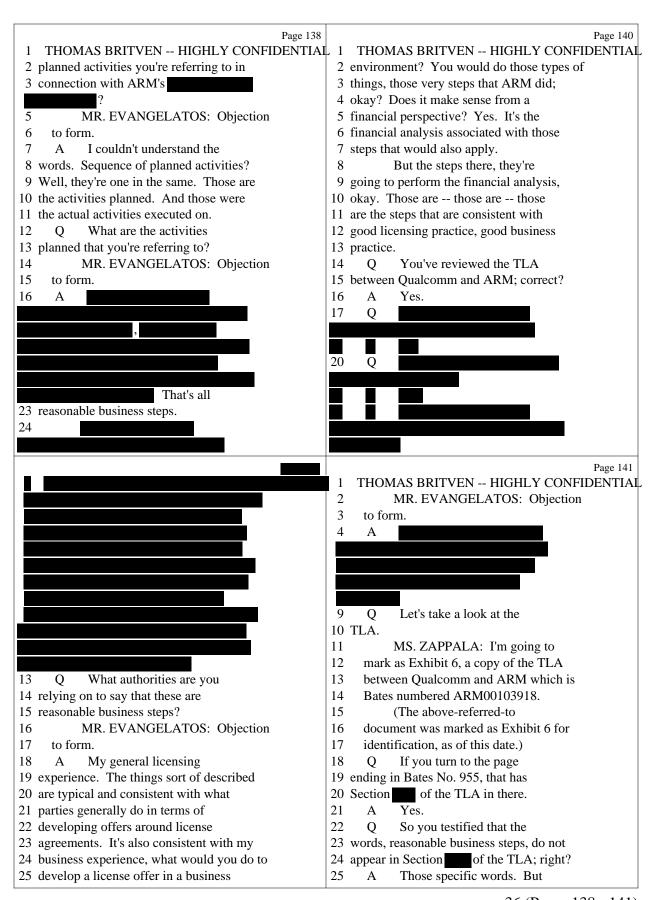
28 (Pages 106 - 109)



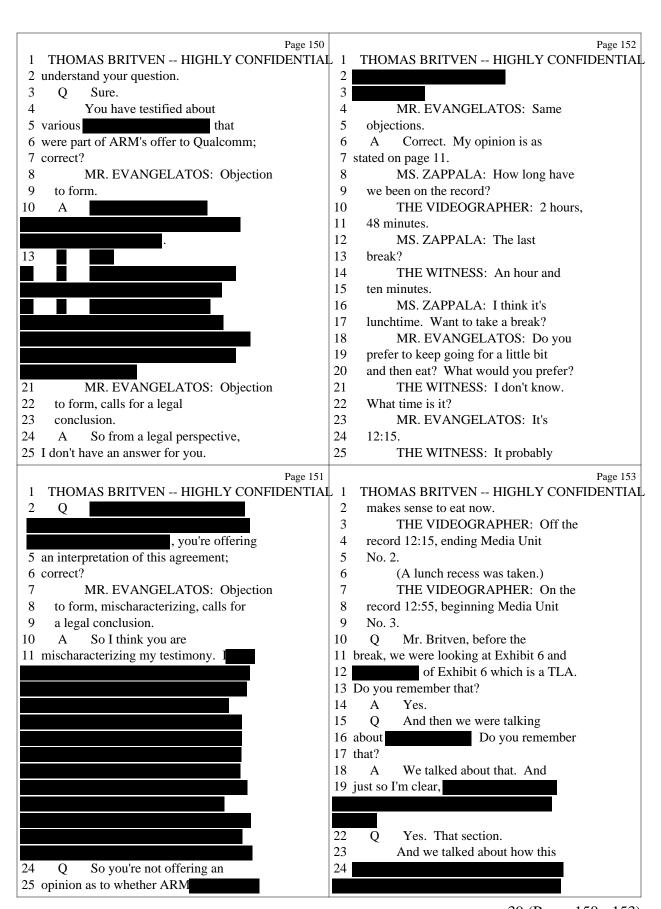
34 (Pages 130 - 133)

Page 134 Page 136 1 THOMAS BRITVEN -- HIGHLY CONFIDENTIAL 1 THOMAS BRITVEN -- HIGHLY CONFIDENTIAL 2 order to achieve a reasonable outcome? 2 you are applying to conclude that ARM 3 And that's what I'm looking at. And I 3 engaged in reasonable business steps? 4 describe that in the report. 4 What I described, as well as Anything else encompassed in 5 my understanding of the contract language 6 your understanding of the term, 6 here. 7 reasonable business steps? 7 MR. EVANGELATOS: Objection Not beyond what's in my 8 to form as well. Go ahead. 9 report. 9 Q Remind me what you 10 When you say what's in your 10 described. O 11 report, what do you mean? 11 MR. EVANGELATOS: Objection MR. EVANGELATOS: Objection 12 12 to form, asked and answered. 13 to form. 13 Α Yeah. I've answered that 14 twice, I think. 14 Well, my report talks a lot 15 of things, talks about the industry, 15 Q Answer it again, please. 16 talks about the party, talks about the MR. EVANGELATOS: Same 16 17 business practice, talks about the 17 objections. 18 background. All those things would make 18 Α So from a licensing 19 perspective, from a business perspective 19 a backdrop relative to reasonable 20 business steps in this particular 20 and from a financial perspective, what 21 circumstance. 21 would be the logical steps that would 22 occur to get to a result, 22 So I'm trying to understand O 23 because you offered an opinion that ARM 24 engaged in reasonable business steps. and would that process 25 And I'm just trying to make sure I 25 generate a correct answer? Page 135 Page 137 1 THOMAS BRITVEN -- HIGHLY CONFIDENTIAL 1 THOMAS BRITVEN -- HIGHLY CONFIDENTIAL 2 understand the definition of the term. 2 The answer is, yes, based 3 upon what I've seen. There's not a 3 reasonable business steps. MR. EVANGELATOS: Objection, 4 glowing air that I have seen or some kind 4 5 5 of a deficiency that would say, oh, no, form. 6 6 they can't get there. What I've seen is Α Yes. 7 What is your definition of 7 consistent with the logical business Q 8 the term, reasonable business steps? 8 steps that should result in a logical and 9 reasonable result. And those are the 9 MR. EVANGELATOS: Objection 10 10 reasonable steps to get there. to form. I already described it. 11 What do you mean by logical 11 Q 12 It's not as if there's a place you can 12 steps? 13 say, okay, there's four reasonable 13 MR. EVANGELATOS: Objection 14 business steps that must occur. 14 to form. 15 A Logical steps, logical, 16 So based upon my experience 16 reasonable business steps, it's all the 17 same. There's a sequence of planned 17 in the licensing area from a business 18 perspective and from a financial and 18 activities, get you to the result. Is 19 economic perspective, what they did is 19 there a gaping air from a business 20 logical and makes sense. 20 perspective or licensing perspective or 21 21 an economic perspective? No, not that Those are all reasonable 22 steps to achieve a result. I haven't 22 I've seen. 23 seen the actual result yet. But so far, 23 Q You referred to sequence of 24 I'm saying so good, so far, so good. 24 planned activities. What is the criteria that 25 What are the sequence of

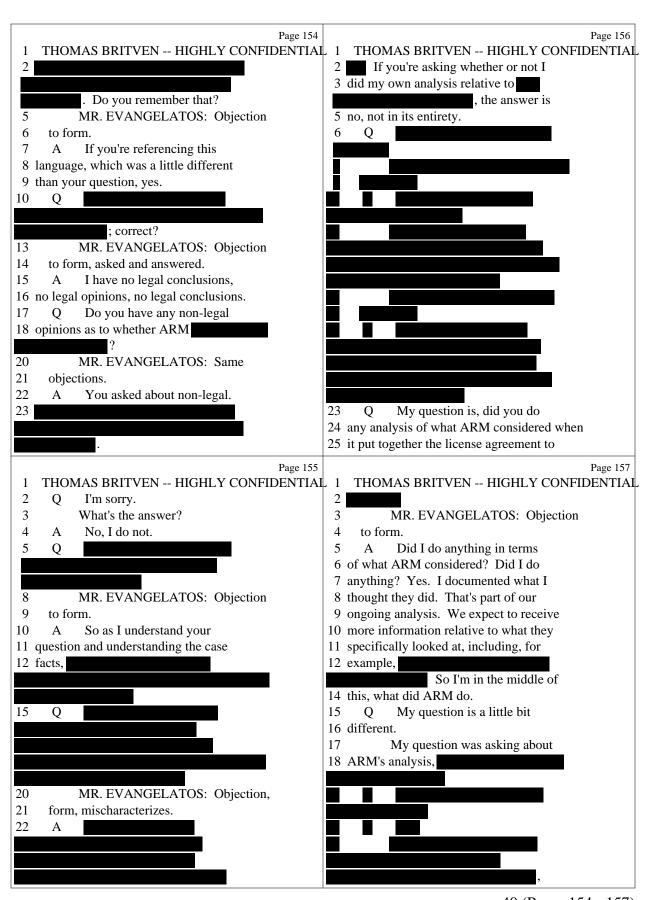
35 (Pages 134 - 137)



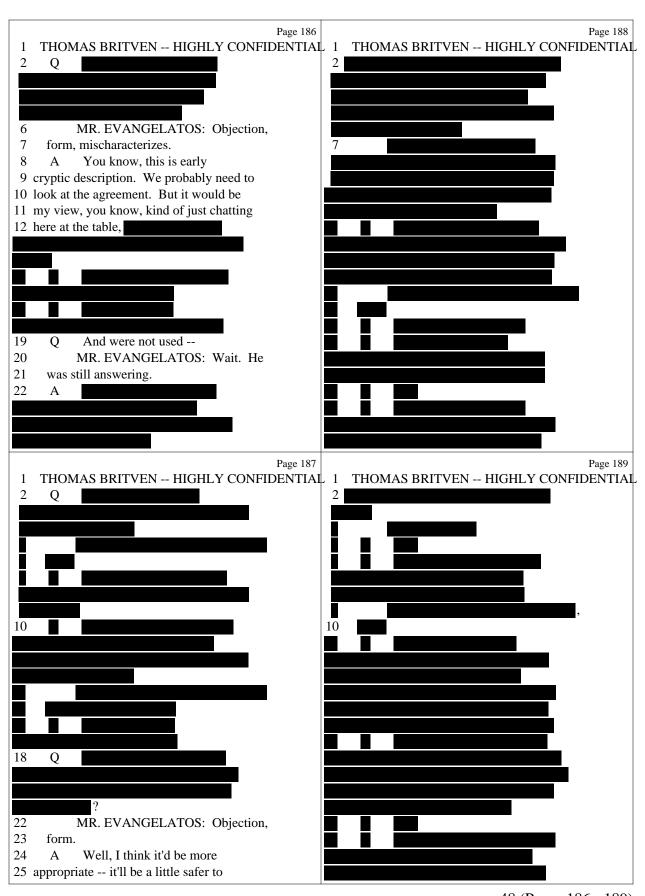
36 (Pages 138 - 141)



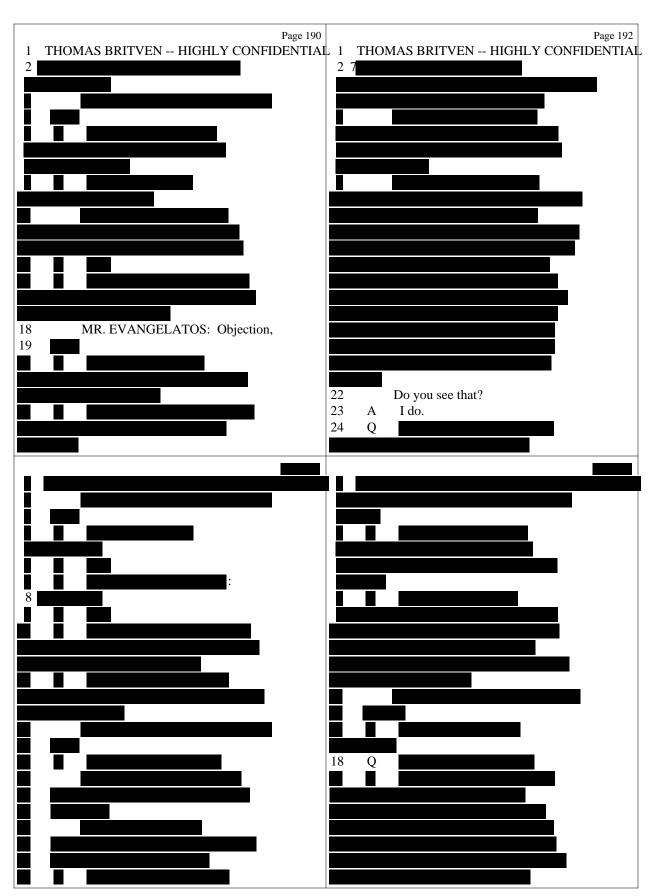
39 (Pages 150 - 153)



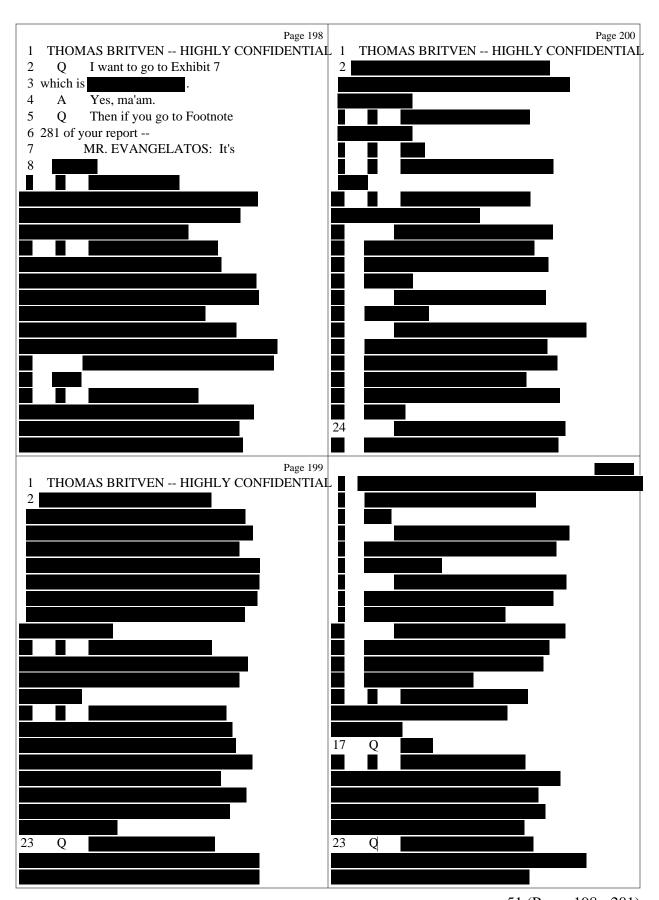
40 (Pages 154 - 157)



48 (Pages 186 - 189)

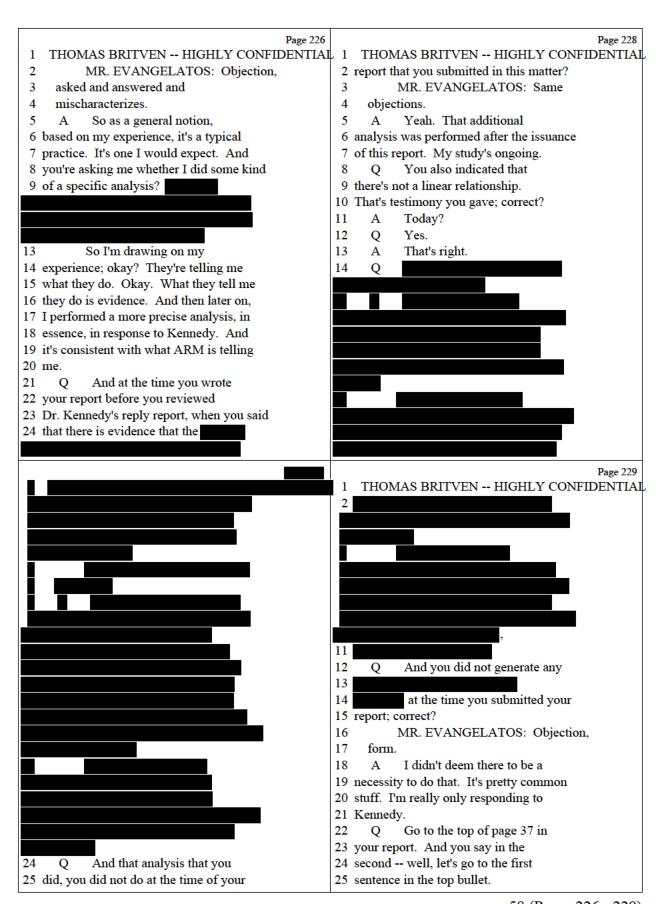


49 (Pages 190 - 193)

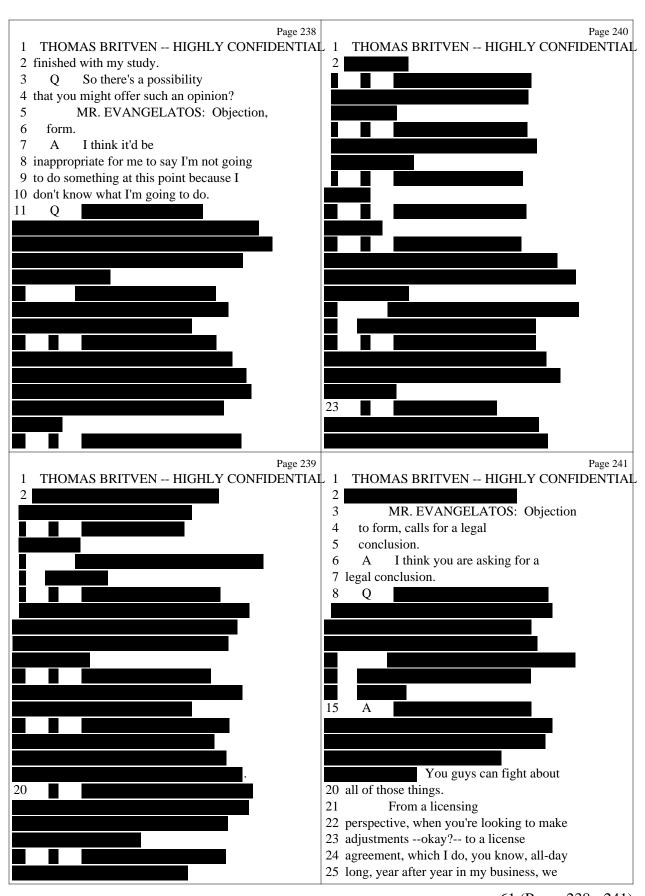


51 (Pages 198 - 201)

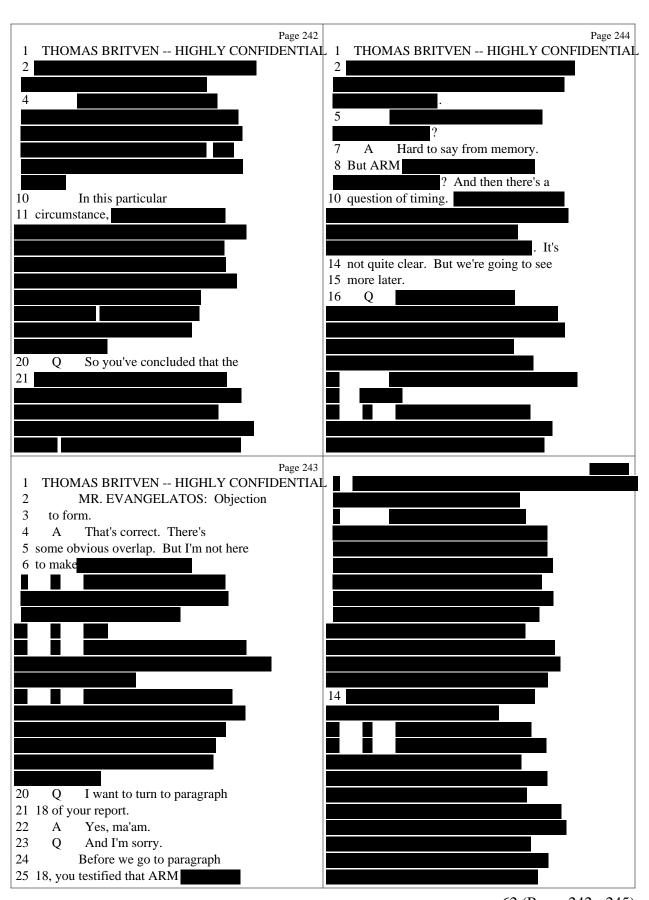
Veritext Legal Solutions www.veritext.com



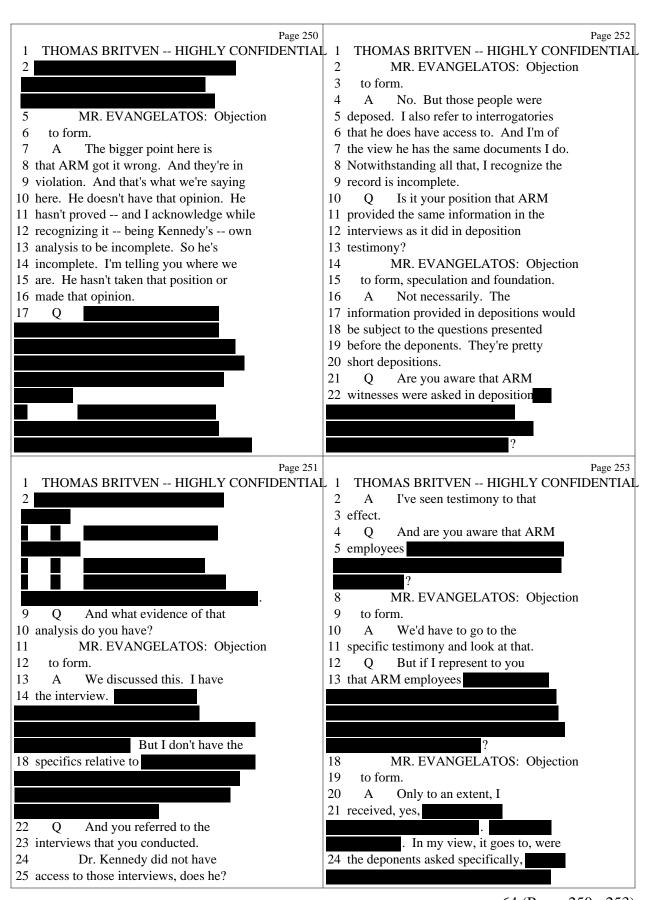
58 (Pages 226 - 229)



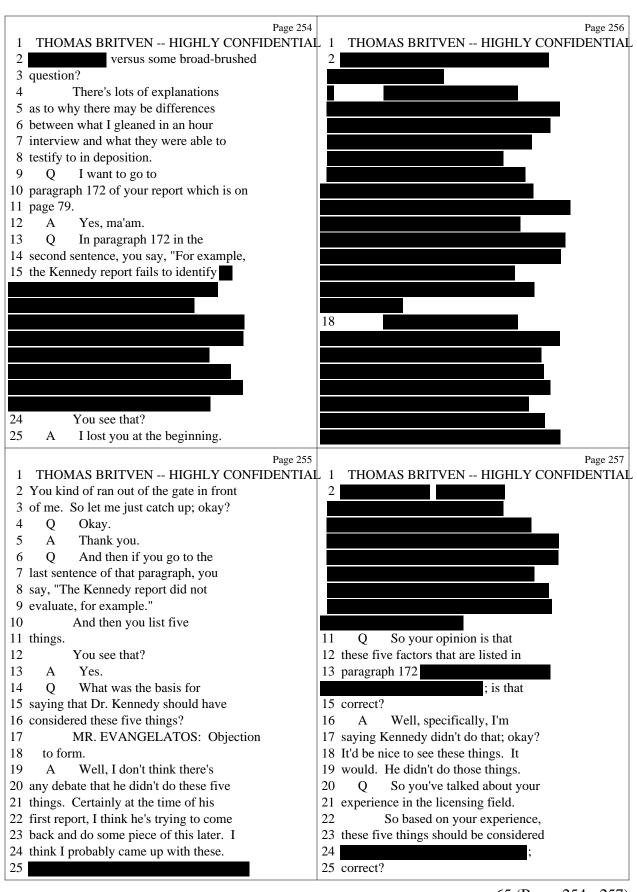
61 (Pages 238 - 241)



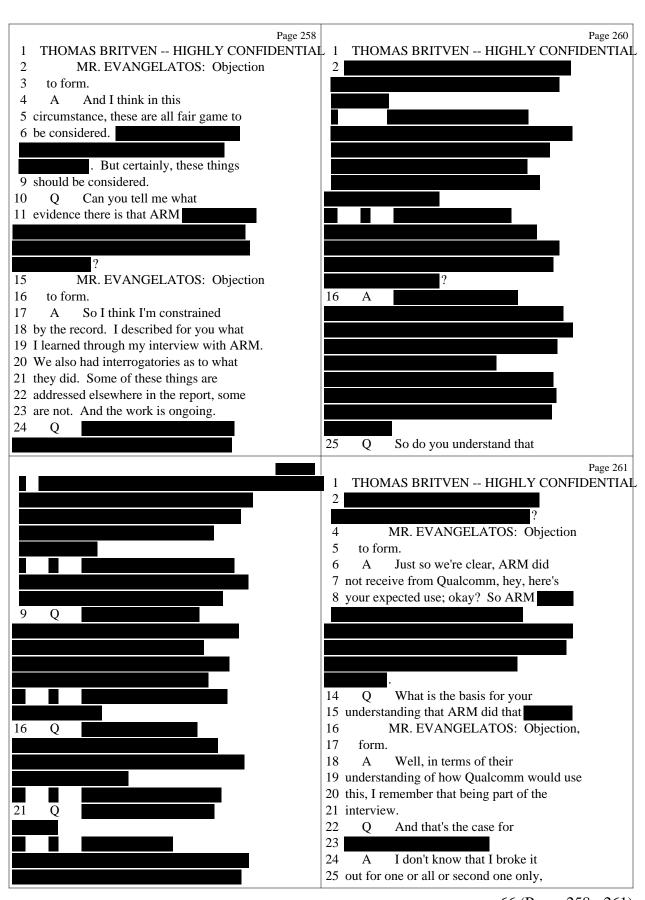
62 (Pages 242 - 245)



64 (Pages 250 - 253)



65 (Pages 254 - 257)



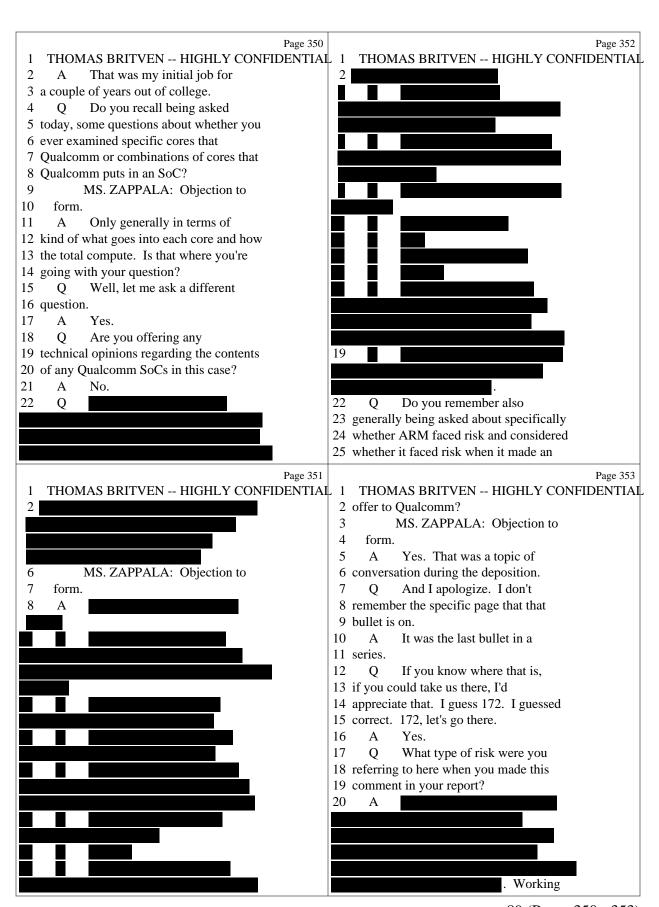
66 (Pages 258 - 261)

D 07/		P. 200
Page 278 1 THOMAS BRITVEN HIGHLY CONFIDENTIA		Page 280 THOMAS BRITVEN HIGHLY CONFIDENTIA
		their analysis.
2 that actually has a bullet in front of 3 me.		
	3	Q Can you explain to me what a
4 A "The evidence summarized in		non-liability aspect of causation is?
5 the Kennedy report."	5	A Here again, in my view,
6 Q Yes.		causation has one leg in liability and
7 You write,		one leg in damages. There needs to be a
	"	link between those two. Part of that is
		the damages analysis.
	10	And that's the analysis I'm
		performing here. I'm not performing a
		liability. I've assumed liability. I've
		assumed liability. But even with that, I
	14	don't see this causal connection that's
	15	necessary from a damages perspective.
You see that?	16	Q But you agree that causation
17 A Yes.	17	is part of a liability analysis; correct?
18 Q So you're offering an	18	MR. EVANGELATOS: Objection
19 opinion that the evidence cited by	19	<del>_</del>
20 Dr. Kennedy did not cause the alleged	20	conclusion.
21 wrongdoing. You see that?	21	A That's true. In my view,
22 MR. EVANGELATOS: Objection,		causation has one foot in liability and
23 form.	23	
24 A Caused by other factors.	24	Q And are you able to explain
25 That's correct.		to me, the distinction between the two?
Page 279 1 THOMAS BRITVEN HIGHLY CONFIDENTIA 2 Q So you're offering an 3 opinion as to what caused or did not		Page 281 THOMAS BRITVEN HIGHLY CONFIDENTIA A Well, I think I have.
=		O Please explain again
4 cause harm to Qualcomm: correct?		Q Please explain again.  MR_EVANGELATOS: Objection
4 cause harm to Qualcomm; correct?  5 MR EVANGELATOS: Objection	4	MR. EVANGELATOS: Objection
5 MR. EVANGELATOS: Objection	4 5	MR. EVANGELATOS: Objection to form.
5 MR. EVANGELATOS: Objection 6 to form, mischaracterizing.	4 5 6	MR. EVANGELATOS: Objection to form.  A So I could have an
<ul> <li>MR. EVANGELATOS: Objection</li> <li>to form, mischaracterizing.</li> <li>A So I read the whole opinion,</li> </ul>	4 5 6 7	MR. EVANGELATOS: Objection to form.  A So I could have an assumption of liability. But those bad
<ul> <li>MR. EVANGELATOS: Objection</li> <li>to form, mischaracterizing.</li> <li>A So I read the whole opinion,</li> <li>and it might be helpful for a</li> </ul>	4 5 6 7 8	MR. EVANGELATOS: Objection to form.  A So I could have an assumption of liability. But those bad acts have to be tied to damages. I don't
MR. EVANGELATOS: Objection to form, mischaracterizing. A So I read the whole opinion, and it might be helpful for a perspective. So I'm the damages guy. I	4 5 6 7 8 9	MR. EVANGELATOS: Objection to form.  A So I could have an assumption of liability. But those bad acts have to be tied to damages. I don't see the linkage here to damages. How is
5 MR. EVANGELATOS: Objection 6 to form, mischaracterizing. 7 A So I read the whole opinion, 8 and it might be helpful for a 9 perspective. So I'm the damages guy. I 10 consider causation to have one leg in	4 5 6 7 8 9 10	MR. EVANGELATOS: Objection to form.  A So I could have an assumption of liability. But those bad acts have to be tied to damages. I don't see the linkage here to damages. How is it that these damages that are claimed
5 MR. EVANGELATOS: Objection 6 to form, mischaracterizing. 7 A So I read the whole opinion, 8 and it might be helpful for a 9 perspective. So I'm the damages guy. I 10 consider causation to have one leg in 11 damages and one leg in liability.	4 5 6 7 8 9 10 11	MR. EVANGELATOS: Objection to form.  A So I could have an assumption of liability. But those bad acts have to be tied to damages. I don't see the linkage here to damages. How is it that these damages that are claimed flow from the alleged liability? That
5 MR. EVANGELATOS: Objection 6 to form, mischaracterizing. 7 A So I read the whole opinion, 8 and it might be helpful for a 9 perspective. So I'm the damages guy. I 10 consider causation to have one leg in 11 damages and one leg in liability. 12 And I think looking at	4 5 6 7 8 9 10 11 12	MR. EVANGELATOS: Objection to form.  A So I could have an assumption of liability. But those bad acts have to be tied to damages. I don't see the linkage here to damages. How is it that these damages that are claimed flow from the alleged liability? That hasn't been demonstrated.
5 MR. EVANGELATOS: Objection 6 to form, mischaracterizing. 7 A So I read the whole opinion, 8 and it might be helpful for a 9 perspective. So I'm the damages guy. I 10 consider causation to have one leg in 11 damages and one leg in liability. 12 And I think looking at 13 causation is fair game for a damages	4 5 6 7 8 9 10 11 12 13	MR. EVANGELATOS: Objection to form.  A So I could have an assumption of liability. But those bad acts have to be tied to damages. I don't see the linkage here to damages. How is it that these damages that are claimed flow from the alleged liability? That hasn't been demonstrated.  Q So you have an opinion that
5 MR. EVANGELATOS: Objection 6 to form, mischaracterizing. 7 A So I read the whole opinion, 8 and it might be helpful for a 9 perspective. So I'm the damages guy. I 10 consider causation to have one leg in 11 damages and one leg in liability. 12 And I think looking at 13 causation is fair game for a damages 14 expert, outside the context of liability.	4 5 6 7 8 9 10 11 12 13 14	MR. EVANGELATOS: Objection to form.  A So I could have an assumption of liability. But those bad acts have to be tied to damages. I don't see the linkage here to damages. How is it that these damages that are claimed flow from the alleged liability? That hasn't been demonstrated.  Q So you have an opinion that the damages claimed by Dr. Kennedy do not
MR. EVANGELATOS: Objection to form, mischaracterizing. A So I read the whole opinion, and it might be helpful for a perspective. So I'm the damages guy. I consider causation to have one leg in damages and one leg in liability. And I think looking at causation is fair game for a damages expert, outside the context of liability. In need to know what I'm quantifying. And	4 5 6 7 8 9 10 11 12 13 14 15	MR. EVANGELATOS: Objection to form.  A So I could have an assumption of liability. But those bad acts have to be tied to damages. I don't see the linkage here to damages. How is it that these damages that are claimed flow from the alleged liability? That hasn't been demonstrated.  Q So you have an opinion that the damages claimed by Dr. Kennedy do not flow from the alleged liability?
MR. EVANGELATOS: Objection to form, mischaracterizing. A So I read the whole opinion, and it might be helpful for a perspective. So I'm the damages guy. I consider causation to have one leg in damages and one leg in liability. And I think looking at causation is fair game for a damages expert, outside the context of liability. I need to know what I'm quantifying. And I need to know if there's a causal link.	4 5 6 7 8 9 10 11 12 13 14 15 16	MR. EVANGELATOS: Objection to form.  A So I could have an assumption of liability. But those bad acts have to be tied to damages. I don't see the linkage here to damages. How is it that these damages that are claimed flow from the alleged liability? That hasn't been demonstrated.  Q So you have an opinion that the damages claimed by Dr. Kennedy do not flow from the alleged liability?  MR. EVANGELATOS: Objection
MR. EVANGELATOS: Objection to form, mischaracterizing. A So I read the whole opinion, and it might be helpful for a perspective. So I'm the damages guy. I consider causation to have one leg in damages and one leg in liability. And I think looking at causation is fair game for a damages expert, outside the context of liability. I need to know what I'm quantifying. And I need to know if there's a causal link. That is the context of this opinion.	4 5 6 7 8 9 10 11 12 13 14 15 16 17	MR. EVANGELATOS: Objection to form.  A So I could have an assumption of liability. But those bad acts have to be tied to damages. I don't see the linkage here to damages. How is it that these damages that are claimed flow from the alleged liability? That hasn't been demonstrated.  Q So you have an opinion that the damages claimed by Dr. Kennedy do not flow from the alleged liability?  MR. EVANGELATOS: Objection to form.
MR. EVANGELATOS: Objection to form, mischaracterizing. A So I read the whole opinion, and it might be helpful for a perspective. So I'm the damages guy. I consider causation to have one leg in damages and one leg in liability. And I think looking at causation is fair game for a damages expert, outside the context of liability. I need to know what I'm quantifying. And I need to know if there's a causal link. That is the context of this opinion.  Q So you think it is	4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	MR. EVANGELATOS: Objection to form.  A So I could have an assumption of liability. But those bad acts have to be tied to damages. I don't see the linkage here to damages. How is it that these damages that are claimed flow from the alleged liability? That hasn't been demonstrated.  Q So you have an opinion that the damages claimed by Dr. Kennedy do not flow from the alleged liability?  MR. EVANGELATOS: Objection to form.  A Well, my opinion is, as
MR. EVANGELATOS: Objection to form, mischaracterizing. A So I read the whole opinion, and it might be helpful for a perspective. So I'm the damages guy. I consider causation to have one leg in damages and one leg in liability. And I think looking at causation is fair game for a damages expert, outside the context of liability. I need to know what I'm quantifying. And I need to know if there's a causal link. That is the context of this opinion.  Q So you think it is appropriate for a damages expert to opine	4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	MR. EVANGELATOS: Objection to form.  A So I could have an assumption of liability. But those bad acts have to be tied to damages. I don't see the linkage here to damages. How is it that these damages that are claimed flow from the alleged liability? That hasn't been demonstrated.  Q So you have an opinion that the damages claimed by Dr. Kennedy do not flow from the alleged liability?  MR. EVANGELATOS: Objection to form.  A Well, my opinion is, as stated here, that the Kennedy reports
5 MR. EVANGELATOS: Objection 6 to form, mischaracterizing. 7 A So I read the whole opinion, 8 and it might be helpful for a 9 perspective. So I'm the damages guy. I 10 consider causation to have one leg in 11 damages and one leg in liability. 12 And I think looking at 13 causation is fair game for a damages 14 expert, outside the context of liability. 15 I need to know what I'm quantifying. And 16 I need to know if there's a causal link. 17 That is the context of this opinion. 18 Q So you think it is 19 appropriate for a damages expert to opine	4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	MR. EVANGELATOS: Objection to form.  A So I could have an assumption of liability. But those bad acts have to be tied to damages. I don't see the linkage here to damages. How is it that these damages that are claimed flow from the alleged liability? That hasn't been demonstrated.  Q So you have an opinion that the damages claimed by Dr. Kennedy do not flow from the alleged liability?  MR. EVANGELATOS: Objection to form.  A Well, my opinion is, as stated here, that the Kennedy reports
MR. EVANGELATOS: Objection to form, mischaracterizing. A So I read the whole opinion, and it might be helpful for a perspective. So I'm the damages guy. I consider causation to have one leg in damages and one leg in liability. And I think looking at causation is fair game for a damages expert, outside the context of liability. I need to know what I'm quantifying. And I need to know if there's a causal link. That is the context of this opinion.	4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	MR. EVANGELATOS: Objection to form.  A So I could have an assumption of liability. But those bad acts have to be tied to damages. I don't see the linkage here to damages. How is it that these damages that are claimed flow from the alleged liability? That hasn't been demonstrated.  Q So you have an opinion that the damages claimed by Dr. Kennedy do not flow from the alleged liability?  MR. EVANGELATOS: Objection to form.  A Well, my opinion is, as stated here, that the Kennedy reports
MR. EVANGELATOS: Objection to form, mischaracterizing. A So I read the whole opinion, and it might be helpful for a perspective. So I'm the damages guy. I consider causation to have one leg in damages and one leg in liability. And I think looking at causation is fair game for a damages expert, outside the context of liability. I need to know what I'm quantifying. And I need to know if there's a causal link. That is the context of this opinion.  Q So you think it is appropriate for a damages expert to opine on causation?	4 4 5 6 7 8 9 100 111 122 133 144 155 166 177 188 199 200 21	MR. EVANGELATOS: Objection to form.  A So I could have an assumption of liability. But those bad acts have to be tied to damages. I don't see the linkage here to damages. How is it that these damages that are claimed flow from the alleged liability? That hasn't been demonstrated.  Q So you have an opinion that the damages claimed by Dr. Kennedy do not flow from the alleged liability?  MR. EVANGELATOS: Objection to form.  A Well, my opinion is, as stated here, that the Kennedy reports damage calculations were caused by
MR. EVANGELATOS: Objection to form, mischaracterizing. A So I read the whole opinion, and it might be helpful for a perspective. So I'm the damages guy. I consider causation to have one leg in damages and one leg in liability. And I think looking at causation is fair game for a damages expert, outside the context of liability. I need to know what I'm quantifying. And I need to know if there's a causal link. That is the context of this opinion. Q So you think it is appropriate for a damages expert to opine on causation?  MR. EVANGELATOS: Objection	4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	MR. EVANGELATOS: Objection to form.  A So I could have an assumption of liability. But those bad acts have to be tied to damages. I don't see the linkage here to damages. How is it that these damages that are claimed flow from the alleged liability? That hasn't been demonstrated.  Q So you have an opinion that the damages claimed by Dr. Kennedy do not flow from the alleged liability?  MR. EVANGELATOS: Objection to form.  A Well, my opinion is, as stated here, that the Kennedy reports damage calculations were caused by factors other than the alleged Kennedy
MR. EVANGELATOS: Objection to form, mischaracterizing. A So I read the whole opinion, and it might be helpful for a perspective. So I'm the damages guy. I consider causation to have one leg in damages and one leg in liability. And I think looking at causation is fair game for a damages expert, outside the context of liability. I need to know what I'm quantifying. And I need to know if there's a causal link. That is the context of this opinion. Q So you think it is appropriate for a damages expert to opine on causation?  MR. EVANGELATOS: Objection to form, mischaracterizing.	4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	MR. EVANGELATOS: Objection to form.  A So I could have an assumption of liability. But those bad acts have to be tied to damages. I don't see the linkage here to damages. How is it that these damages that are claimed flow from the alleged liability? That hasn't been demonstrated.  Q So you have an opinion that the damages claimed by Dr. Kennedy do not flow from the alleged liability?  MR. EVANGELATOS: Objection to form.  A Well, my opinion is, as stated here, that the Kennedy reports damage calculations were caused by factors other than the alleged Kennedy reports damage calculations were caused

71 (Pages 278 - 281)

Page 282 1 THOMAS BRITVEN HIGHLY CONFIDENTIA	Page 284 L 1 THOMAS BRITVEN HIGHLY CONFIDENTIA
2 damages calculated were not caused by the	2 causation.
3 alleged wrongdoing?	3 But he runs away from
4 A As described by Dr. Kennedy.	· ·
	4 causation, hey, I got I'm not saying
5 Q I want to turn you to	5 anything in here about liability, I'm not
6 paragraph 215 of your report.	6 saying anything in here about causation,
7 If you go to the second	7 I'm just going to do this. Well, that's
8 sentence, do you see it says, "Assuming	8 not very helpful because the damages are
9 the trier of fact finds that Qualcomm has	9 supposed to flow from the underlying
10 proven causation (it has not), the	10 wrongdoing.
11 Kennedy report's calculations are	11 Q Is it your opinion that a
12 overstated."	12 damages expert could not assume
Do you see that?	13 causation?
14 A Yes.	MR. EVANGELATOS: Objection,
15 Q So you are opining that	15 mischaracterizes.
16 Qualcomm has not proven causation;	16 A No. A damages expert can
17 correct?	17 assume causation. But typically, when we
18 MR. EVANGELATOS: Objection,	18 see that in my experience, then there's
19 mischaracterizes.	19 an explanation as to why that's a
20 A I think that's a	20 reasonable assumption. I don't see that
21 mischaracterization of my opinion. My	21 here either.
22 opinion is stated on page 12; okay? And	22 Q So going back to
23 what I'm saying here is, assuming the	23 paragraph 215 when you say assuming the
24 trier of fact finds Qualcomm has proven	24 trier of fact finds that Qualcomm has
25 causation, I don't think they have	25 proven causation, it has not, your
Page 283  1 THOMAS BRITVEN HIGHLY CONFIDENTIA  2 clave? heard upon the week in the	
2 okay? based upon the work in the	2 testimony is that you are not opining as
3 Kennedy report. But if that's the case,	3 to whether Qualcomm has proven causation?
4 if there's a causal link, then Kennedy's	4 A That's correct.
5 report's calculations overstate the	5 Q So what are you opining on
6 amount.	6 then?
7 Q But you have a parentheses	7 A That Kennedy hasn't
8 here where you express your view that	8 demonstrated causation based on his
9 Qualcomm has not proven causation;	9 descriptions. I think you're reading
10 correct?	10 more into this. This is Qualcomm and
11 A Right. And that's shorthand	11 everything they're doing. That's beyond
12 for what I said earlier about what's	12 what I'm looking at. I'm looking at the
13 contained in the Kennedy report and the	13 Kennedy report and what he said. Maybe
14 analysis that he performed. I'm	14 it'd be better if I were to substitute
15 rebutting Kennedy on this. Don't read	15 Kennedy in here.
16 more into it than that.	16 Assuming the trier of fact
17 Q And your opinion is that	17 finds that whatever Kennedy has done
18 Kennedy should have, but they did not	18 proves causation, then the report
19 prove causation; correct?	19 calculations are overstated. But my
MR. EVANGELATOS: Objection,	20 point relative to causation relates to
21 mischaracterizing.	21 Kennedy more so well, it relates to
22 A No. It's not that firm. I	22 Kennedy and not Qualcomm in the
23 think he should have tested causation.	23 aggregate. I'm looking at Kennedy's
24 He should have explained causation. You	24 work.
25 can do those things. He can demonstrate	25 Q So your opinion is that
25 can do mose unings. The can demonstrate	25 Q So your opinion is that

72 (Pages 282 - 285)



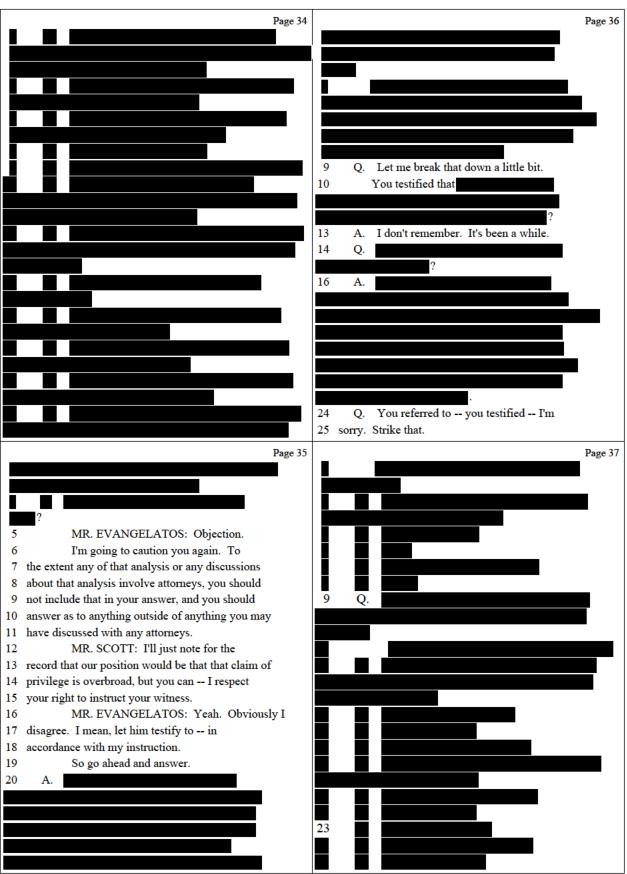
89 (Pages 350 - 353)

		DO .	
	Page 358		Page 360
1		1	QUALCOMM INCORPORATED, et al.
2	CERTIFICATION		vs. ARM HOLDINGS PLC
3		2	10/3/2025 - THOMAS BRITVEN
4		3	ACKNOWLEDGEMENT OF DEPONENT
5	I, ANTHONY GIARRO, a Shorthand Reporter	4	I, THOMAS BRITVEN, do hereby declare
6	and a Notary Public, do hereby certify that	5	that I have read the foregoing transcript,
7	the foregoing witness, THOMAS BRITVEN, was	6	I have made any corrections, additions, or
8	duly sworn on the date indicated, and that	7	A CONTROL OF STATE OF
9	the foregoing, to the best of my ability, is	8	Errata to be appended hereto, and that the
10	a true and accurate transcription of my	9	same is a true, correct and complete
11	stenographic notes.	10	transcript of the testimony given by me.
12	I further certify that I am not	11	tunistipi of the testimony given by inc.
13	employed by nor related to any party to this	12	
14	action.	13	THOMAS BRITVEN Date
15	action.	1000	
16		14	*If notary is required
	77	15	
17	0	16	SUBSCRIBED AND SWORN TO BEFORE ME THIS
		17	DAY OF, 20
18	ANTHONY GIARRO	18	
19		19	
20		20	
21		21	NOTARY PUBLIC
22		22	
23		23	
24		24	
25		25	
	D 250	0	
1	Page 359		
1	QUALCOMM INCORPORATED, et al. vs. ARM HOLDINGS PLC		
1			
10000	10/3/2025 - THOMAS BRITVEN		
3	ERRATA SHEET		
	PAGELINECHANGE		
5			
1232	REASON		
7	PAGELINECHANGE		
8			
m23321.0	REASON		
10	PAGELINECHANGE		
11			
	REASON		
13	PAGELINECHANGE		
	REASON		
16	PAGE LINE CHANGE		
1			
1	REASON		
1	PAGE LINE CHANGE		
1	THOU END CHARGE		
	REASON		
22	14210011		
23			
	THOMAS BRITVEN Date		
25			

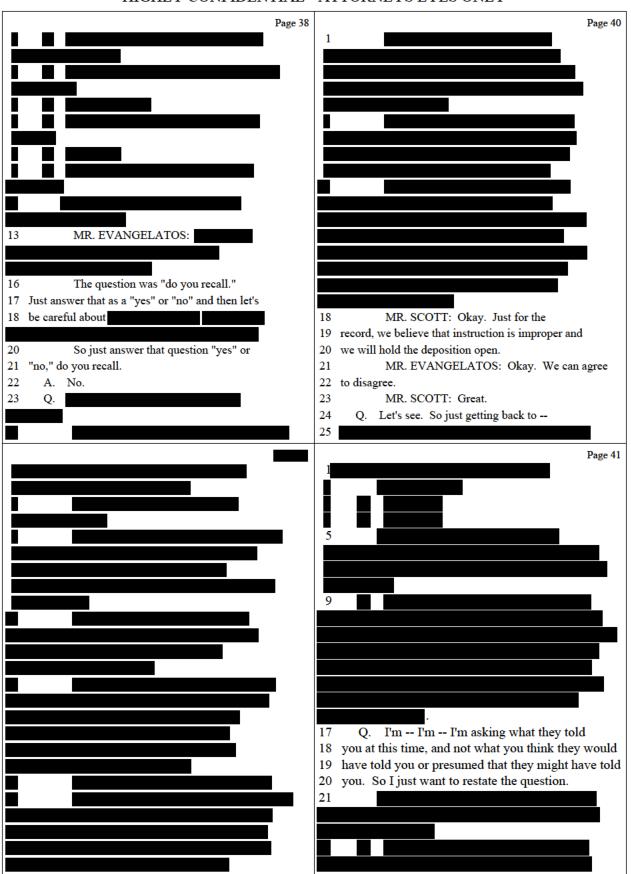
91 (Pages 358 - 360)

# EXHIBIT 20

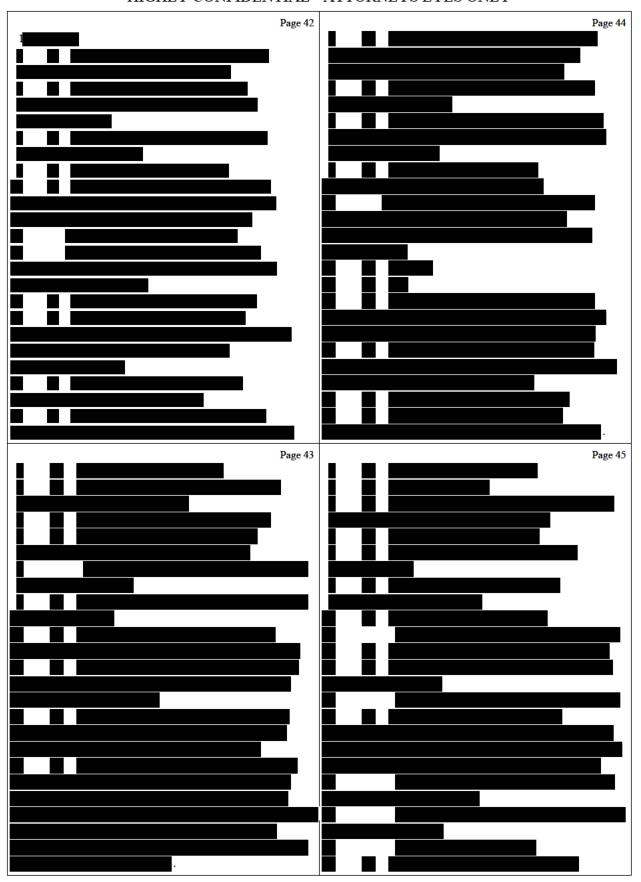
IN THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF DELAWARE  QUALCOMM INCORPORATED, \$ A DELAWARE CORPORATION, \$ QUALCOMM TECHNOLOGIES, \$ C.A. NO. 24-490-MN INC., A DELAWARE \$ CORPORATION, \$ PLAINTIFFS, \$ ARM HOLDINGS PLC., \$ F/K/A ARM LTD., A U.K. \$ CORPORATION, \$ DEFENDANT. \$ **HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY ORAL AND VIDEOTAPED DEPOSITION OF AKSHAY BHATM	
QUALCOMM INCORPORATED, \$ A DELAWARE CORPORATION, \$ QUALCOMM TECHNOLOGIES, \$ C.A. NO. 24-490-MN INC., A DELAWARE \$ CORPORATION, \$  PLAINTIFFS, \$  ARM HOLDINGS PLC., \$ F/K/A ARM LTD., A U.K. \$  CORPORATION, \$  DEFENDANT. \$  **HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY	
QUALCOMM INCORPORATED, \$ A DELAWARE CORPORATION, \$ QUALCOMM TECHNOLOGIES, \$ C.A. NO. 24-490-MN INC., A DELAWARE \$ CORPORATION, \$ PLAINTIFFS, \$ PLAINTIFFS, \$ ARM HOLDINGS PLC., \$ F/K/A ARM LTD., A U.K. \$ CORPORATION, \$ DEFENDANT. \$ **HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY	
A DELAWARE CORPORATION, \$  QUALCOMM TECHNOLOGIES, \$ C.A. NO. 24-490-MN INC., A DELAWARE \$  CORPORATION, \$  PLAINTIFFS, \$  ARM HOLDINGS PLC., \$  F/K/A ARM LTD., A U.K. \$  CORPORATION, \$  DEFENDANT. \$  **HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY	
QUALCOMM TECHNOLOGIES, \$ C.A. NO. 24-490-MN INC., A DELAWARE \$ CORPORATION, \$ COR	
INC., A DELAWARE  5 CORPORATION,  6 PLAINTIFFS,  7 - AGAINST -  8 ARM HOLDINGS PLC.,  F/K/A ARM LTD., A U.K.  9 CORPORATION,  \$ 10 DEFENDANT.  **HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY	
5 CORPORATION, \$ \$ 6 PLAINTIFFS, \$ \$ 7 - AGAINST - \$ \$ 8 ARM HOLDINGS PLC., \$ F/K/A ARM LTD., A U.K. \$ 9 CORPORATION, \$ \$ 10 DEFENDANT. \$ **HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY	
S 6 PLAINTIFFS, S 5 7 - AGAINST - S 8 ARM HOLDINGS PLC., S F/K/A ARM LTD., A U.K. S 9 CORPORATION, S 10 DEFENDANT. S 11 **HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY	
6 PLAINTIFFS, \$  7 - AGAINST - \$  8 ARM HOLDINGS PLC., \$  F/K/A ARM LTD., A U.K. \$  9 CORPORATION, \$  10 DEFENDANT. \$  **HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY	
7 - AGAINST - \$  8 ARM HOLDINGS PLC., \$  F/K/A ARM LTD., A U.K. \$  9 CORPORATION, \$  10 DEFENDANT. \$  **HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY	
7 - AGAINST - \$  8 ARM HOLDINGS PLC., \$  F/K/A ARM LTD., A U.K. \$  9 CORPORATION, \$  10 DEFENDANT. \$  **HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY	
8 ARM HOLDINGS PLC., \$ F/K/A ARM LTD., A U.K. \$ 9 CORPORATION, \$ \$ 10 DEFENDANT. \$ 11 **HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY	
8 ARM HOLDINGS PLC., \$ F/K/A ARM LTD., A U.K. \$ 9 CORPORATION, \$ \$ 10 DEFENDANT. \$ **HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY	
F/K/A ARM LTD., A U.K. \$  CORPORATION, \$  DEFENDANT. \$  **HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY	
9 CORPORATION, § \$ 10 DEFENDANT. § 11 **HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY	
S  10 DEFENDANT. S  11 **HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY	
10 DEFENDANT. § 11 **HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY	
**HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY	
12 ODAT AND UTDEOMADED DEDOCTMION OF ARCUAY BUANN	Y**
12 CAAL AND VIDECTAFED DEFOSITION OF ARSHAI BHATT	NAGAR
JULY 10, 2025	
13	
14	
15	
ORAL AND VIDEOTAPED DEPOSITION OF AKSHAY	
BHATNAGAR, produced as a witness at the instance	ce of
the Plaintiffs and duly sworn, was taken in the	<b>=</b>
above styled and numbered cause on Thursday,	
July 10, 2025, from 9:22 a.m. to 12:39 p.m., be	efore
18 TAMARA CHAPMAN, CSR, RPR-CRR in and for the Sta	ate of
Texas, reported by computerized stenotype machi	ine,
at the offices of Kirkland & Ellis, LLP, 401	
Congress Avenue, Austin, Texas, pursuant to the	<b>a</b>
20 Federal Rules of Civil Procedure and any provis	sions
stated on the record herein.	
21	
22	
23	
24	
25 Job No. NY 7464214	



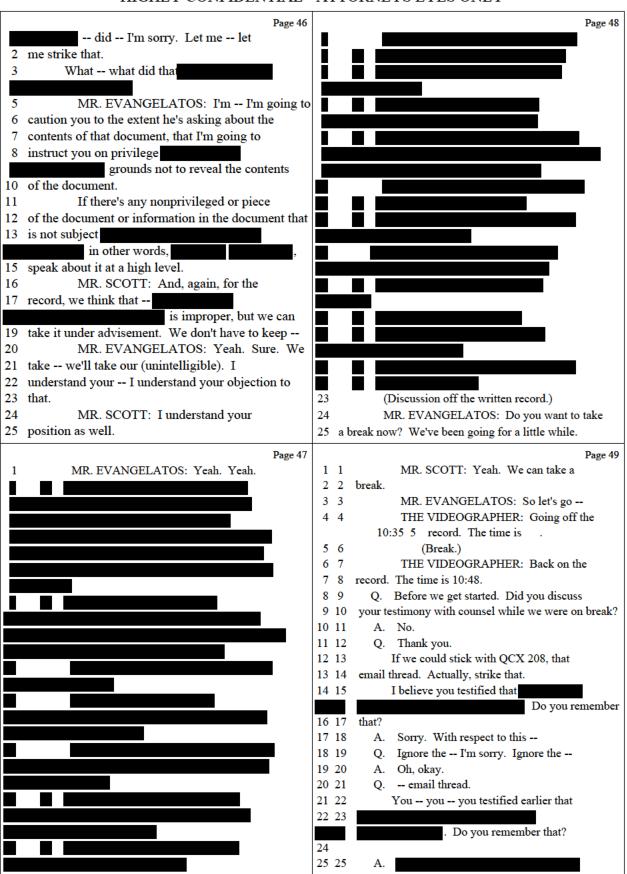
10 (Pages 34 - 37)



11 (Pages 38 - 41)



12 (Pages 42 - 45)



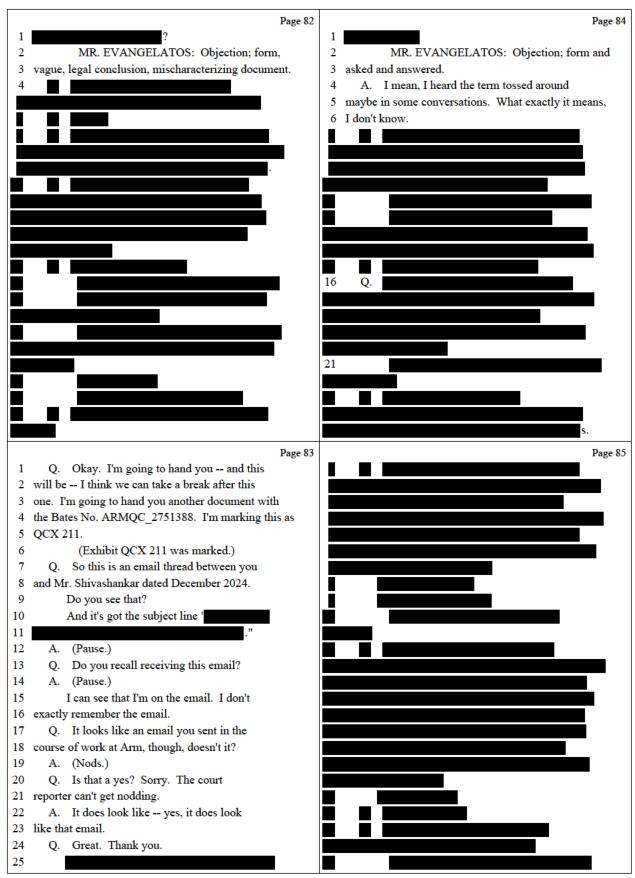
13 (Pages 46 - 49)



19 (Pages 70 - 73)



21 (Pages 78 - 81)



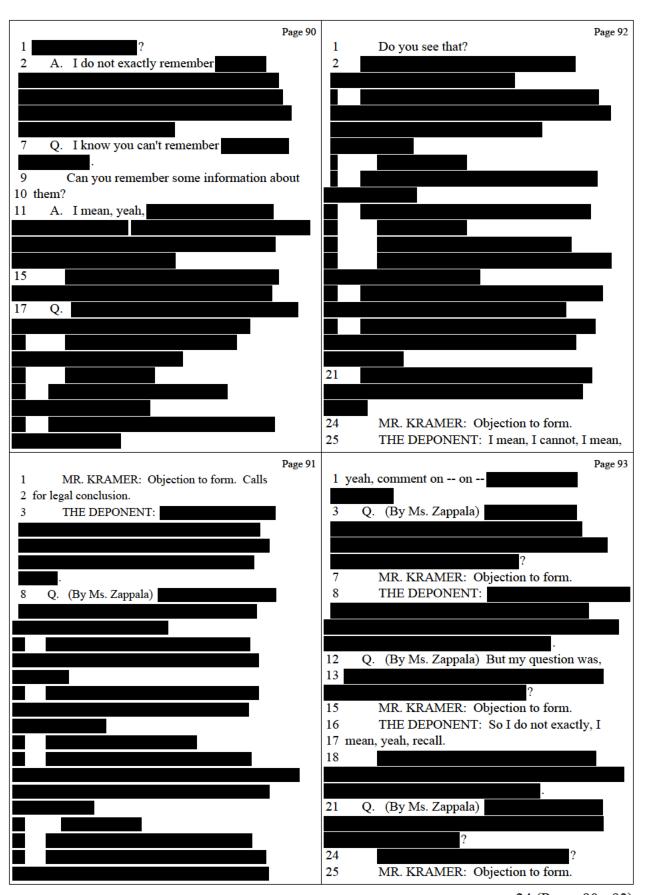
22 (Pages 82 - 85)

# EXHIBIT 21

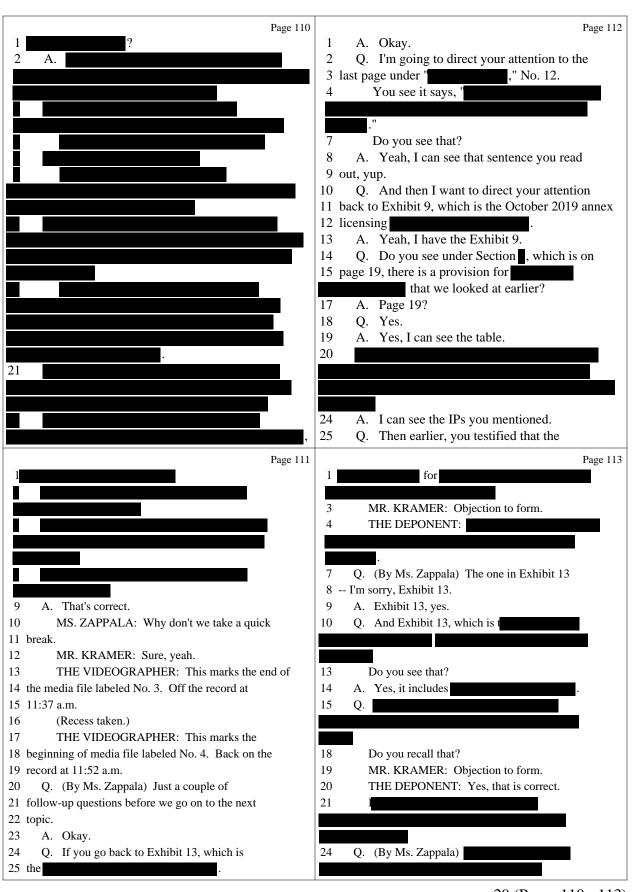
	D 1		
	Page 1		
1	IN THE UNITED STATES DISTRICT COURT		
2	FOR THE DISTRICT OF DELAWARE		
3			
4	QUALCOMM INCORPORATED, a		
	Delaware corporation,		
5	QUALCOMM TECHNOLOGIES, INC.,		
	a Delaware corporation,		
6			
	Plaintiffs,		
7			
	vs. C.A. No. 24-490 (MN)		
8			
	ARM HOLDINGS PLC., f/k/a		
9	ARM LTD., a U.K.		
	corporation,		
10			
	Defendant.		
11			
12			
13	**ATTORNEYS' EYES ONLY**		
14	VIDEO DEPOSITION OF ARM HOLDINGS PLC's 30(b)(6) and		
15	30(b)(1) REPRESENTATIVE - KARTHIK SHIVASHANKAR		
16	Palo Alto, California		
17	Friday, June 20, 2025		
18	Volume 1		
19			
20	CHENOCOL DUIGALLY DEDCOMED DV		
01	STENOGRAPHICALLY REPORTED BY:		
21	REBECCA L. ROMANO, RPR, CSR, CCR		
22	California CSR No. 12546		
22	Nevada CCR No. 827		
22	Oregon CSR No. 20-0466		
23	Washington CCR No. 3491		
24 25	JOB NO. 7428915		
25	PAGES 1 - 189		



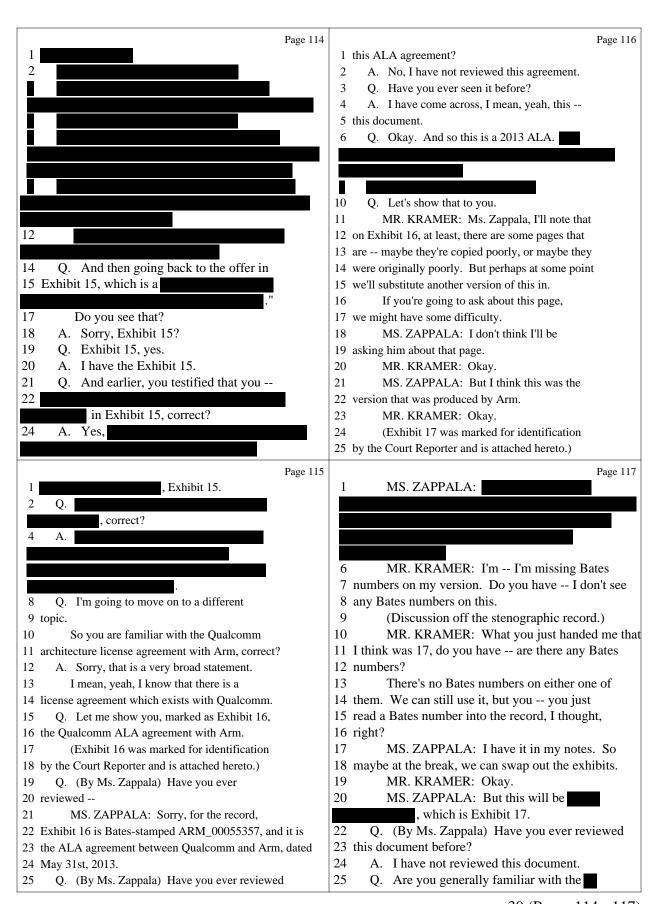
23 (Pages 86 - 89)



24 (Pages 90 - 93)



29 (Pages 110 - 113)



30 (Pages 114 - 117)

# EXHIBIT 22

# IN THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF DELAWARE

QUALCOMM INCORPORATED,	)
a Delaware corporation; and	)
QUALCOMM TECHNOLOGIES, INC.,	)
a Delaware corporation,	)
	)
Plaintiffs,	) C.A. No. 24-490 (MN)
	)
v.	) <b>CONFIDENTIAL</b>
	)
ARM HOLDINGS PLC., f/k/a ARM LTD.,	)
a U.K. corporation,	)
	)
Defendant.	)

### QUALCOMM'S FIRST SET OF REQUESTS FOR PRODUCTION (NOS. 1–52)

Pursuant to Rules 26 and 34 of the Federal Rules of Civil Procedure and the Local Civil Rules of this Court, Plaintiffs Qualcomm Inc. and Qualcomm Technologies, Inc. (collectively, "Plaintiffs" or "Qualcomm") request that Defendant Arm Holdings PLC ("Arm") serve its written responses to these requests for production and produce copies of the Documents and tangible things requested below at the law offices of Paul, Weiss, Rifkind, Wharton & Garrison LLP, 1285 Avenue of the Americas, New York, NY 10019-6064 within thirty (30) days of service.

#### **INSTRUCTIONS**

- 1. Pursuant to Rule 26(e) of the Federal Rules of Civil Procedure, these requests for Documents and things are continuing in nature. If, after producing the requested Documents and things, Arm obtains or becomes aware of any further responsive Document or thing, Arm must produce to Qualcomm such additional Document or thing.
- 2. If Arm withholds any Document or thing based upon a claim of privilege or any other claim of immunity from discovery, Arm shall state the specific basis for withholding the Document or thing and describe the facts and circumstances giving rise to such withholding in

writing in a manner sufficient for Qualcomm to evaluate, and the Court to adjudicate, the merits of the claim.

- 3. If a claim of privilege is asserted with respect to any requested Document or thing, such Document or thing shall be scheduled on a privilege log that provides all of the information required by Rule 26(b)(5) of the Federal Rules of Civil Procedure subject to any agreement by the parties in this litigation regarding claims of privilege and privilege logs. To the extent a requested Document or thing contains non-privileged information, the privileged information shall be redacted from the same and the redacted version of the Document or thing produced.
- 4. If an objection is asserted with respect to any request for production of any Document or thing, Arm shall respond to the portion of the request believed to be unobjectionable and specifically identify that aspect of the request that Arm claims to be objectionable and why, pursuant to Federal Rule of Civil Procedure 34(b)(2).
- 5. If an objection is asserted with respect to any request for production of any Document or thing, Arm shall state whether Arm is withholding any responsive material on the basis of that objection, pursuant to Federal Rule of Civil Procedure 34(b)(2).
- 6. If Arm claims that information requested or required in response to any request for production of any Document or thing is also responsive to another request, Arm may not answer the request by referring to the answer to another request unless the answer to the request being referred to supplies a complete and accurate response to the request being answered, pursuant to Federal Rule of Civil Procedure 34(b)(2).
- 7. If, in responding to any request for production, Arm believes there are any ambiguities in the request's wording, the response shall set forth the matter deemed ambiguous and the construction used in responding.

- 8. If a Document or thing that is responsive to any request for production has been destroyed, the response shall identify (i) the preparer of the Document or thing; (ii) its addresser (if different), addressee, and each recipient; (iii) each Person to whom it was distributed or shown; (iv) the date it was prepared; (v) the date it was transmitted (if different); (vi) the date it was received; (vii) a description of its contents and subject matter; (viii) the date of its destruction; (ix) the manner of its destruction; (x) the name, title, and address of the Person authorizing its destruction; (xi) the reason(s) for its destruction; (xii) the name, title and address of the Person destroying the Document or thing; and (xiii) a description of the efforts to locate the Document or thing and/or copies of it.
- 9. Responsive Documents or things should not be limited solely to those under Arm's physical custody, but should include those that are under its "possession, custody, or control," as that phrase is used in Rule 34 of the Federal Rules of Civil Procedure and has been interpreted by case law.
- 10. None of the definitions and instructions or the requests for production should be construed as an admission by Qualcomm relating to the existence of any evidence, to the relevance or admissibility of any evidence, or to the truth or accuracy of any statement or characterization in any definition, instruction, or request for production.
  - 11. No request shall be read as limiting any other request.

#### **DEFINITIONS**

Unless otherwise indicated, the following definitions shall apply.

1. The definitions and instructions set forth in Federal Rules of Civil Procedure 26 and 34 are incorporated herein by reference.

- 2. Any capitalized term not otherwise defined herein retains its meaning consistent with the Qualcomm ALA, dated May 31, 2013 ( ).
- 3. The term "Document" is defined to be synonymous in meaning and equal in scope to the usage of this term in Federal Rule of Civil Procedure 34(a), and to include, without limitation, all Communications, Things, and "writing[s]," "recording[s]," and "photograph[s]," as those terms are defined by Federal Rule of Evidence 1001, including, without limitation, electronic or computerized data compilations. A draft, prior or subsequent version, or non-identical copy is a separate "Document" within the meaning of the term. The term "Document" should also be deemed to include, without limitation, the file-folder, labeled-box, or notebook containing the Document, as well as any index, table of contents, list, or summaries that serve to organize, identify, or reference the Document.
- 4. "Communication" shall mean every manner of transmitting or receiving facts, information, thoughts or opinions, whether written, oral or by any other means, including but not limited to all memoranda, notices of meetings, electronic mail, text messages, conversations by telephone calls, records of conversations or messages whether in writing or upon any mechanical, electrical or electronic recording device, and oral conversations and statements.
- 5. "Concerning" is used in the broadest sense of the term and shall mean concerning, relating to, referring to, in connection with, describing, evidencing, constituting, containing, reflecting, constituting a basis for, commenting upon, mentioning, supporting, modifying, contradicting, disproving or criticizing.
- 6. "Defendant," "Arm," "you," and "your" mean Plaintiff Arm Holdings PLC and its predecessors, successors, affiliates, subsidiaries, parents, assignees, joint venturers, partners,

principals, employees, representatives, agents, officers, trustees, directors, attorneys, and all other Persons or entities acting or purporting to act on their behalf.

- 7. "Plaintiffs" means, collectively, Plaintiffs Qualcomm Inc. and Qualcomm Technologies, Inc., and their principals, employees, representatives, agents, and officers.
- 8. "Complaint" means the First Amended Complaint filed by Qualcomm in the District of Delaware on December 16, 2024, captioned *Qualcomm Inc.* v. *Arm Holdings PLC*, No. 24-490 (MN).
- 9. "ALA" means Architecture License Agreement, including all amendments and annexes to any such agreement.
- 10. "TLA" means Technology License Agreement, including all amendments and annexes to any such agreement.
- 11. "Person" means any natural person or any business, legal, governmental, or regulatory entity or association, and the "acts" of a Person are defined to include acts of trustees, directors, officers, owners, members, employees, agents, or attorneys acting on the Person's behalf.
- 12. "Third Party" or "Third Parties" means any Person other than Plaintiffs and Defendant, as defined in the foregoing paragraphs.
- 13. "Thing" and its plural form means any tangible thing under the Federal Rules, including, without limitation, objects of every kind and nature, as well as prototypes, models, and drafts.

1	4.					

- 15. "means the definition of "means" as set forth in Qualcomm ALA.
  - 16. "Answer" means Arm's Answer filed in response to Qualcomm's Complaint.
- 17. "ACK" means Arm's Architecture Compliance Kit or Arm's Architecture Validation Suite or Arm's Architecture Compliance Suite.
- 18. "means the definition of "means" as set forth in of the Qualcomm ALA.
  - 19. "OOB" means Arm's Out of Box tests.
- 20. As used in these requests, the singular shall include the plural, and the past tense shall include the present tense, and vice versa; the words "and" and "or" shall be both conjunctive and disjunctive; the word "all" shall mean "any and all"; the word "including" shall mean "including, without limitation," so as to be most inclusive.

#### **REQUESTS FOR PRODUCTION**

#### **REQUEST FOR PRODUCTION NO. 1:**

All Documents and Communications Arm referenced, relied upon, or otherwise used in drafting its Answer.

#### **REQUEST FOR PRODUCTION NO. 2:**

All Documents and Communications Arm contends support its defenses or that rebut its defenses.

#### **REQUEST FOR PRODUCTION NO. 3:**

Documents and Communications sufficient to show all error corrections, modifications, maintenance releases, and enhancements to the licensed under the Qualcomm ALA and released or distributed (internally or otherwise) since June 1, 2022.

#### **REQUEST FOR PRODUCTION NO. 4:**

All Documents and Communications concerning or bug fixes, updates, corrections, or any other technical improvement or information licensed under the Qualcomm ALA that was, after June 1, 2022, delivered to any other Arm licensee but not to Qualcomm.

#### **REQUEST FOR PRODUCTION NO. 5:**

All Documents and Communications since June 1, 2022 related to or concerning the Qualcomm's ACK or Qualcomm's OOB tests, and any patches thereto.

#### **REQUEST FOR PRODUCTION NO. 6:**

All versions of the ACK released after June 1, 2022, and any patches thereto.

#### **REQUEST FOR PRODUCTION NO. 7:**

All Documents and Communications concerning Arm's position that

of the Qualcomm ALA governs delivery of ACK deliverables listed in

of any of the Qualcomm ALA Annexes.

#### **REQUEST FOR PRODUCTION NO. 8:**

All Documents and Communications concerning or interpreting

of the Qualcomm ALA.

#### **REQUEST FOR PRODUCTION NO. 9:**

All Documents and Communications concerning or interpreting the definition of "", and sections governing verification, delivery, support, and any remedies for failure to deliver "in any Third Party ALAs.

- 8. If a Document or thing that is responsive to any request for production has been destroyed, the response shall identify (i) the preparer of the Document or thing; (ii) its addresser (if different), addressee, and each recipient; (iii) each Person to whom it was distributed or shown; (iv) the date it was prepared; (v) the date it was transmitted (if different); (vi) the date it was received; (vii) a description of its contents and subject matter; (viii) the date of its destruction; (ix) the manner of its destruction; (x) the name, title, and address of the Person authorizing its destruction; (xi) the reason(s) for its destruction; (xii) the name, title and address of the Person destroying the Document or thing; and (xiii) a description of the efforts to locate the Document or thing and/or copies of it.
- 9. Responsive Documents or things should not be limited solely to those under Arm's physical custody, but should include those that are under its "possession, custody, or control," as that phrase is used in Rule 34 of the Federal Rules of Civil Procedure and has been interpreted by case law.
- 10. None of the definitions and instructions or the requests for production should be construed as an admission by Qualcomm relating to the existence of any evidence, to the relevance or admissibility of any evidence, or to the truth or accuracy of any statement or characterization in any definition, instruction, or request for production.
  - 11. No request shall be read as limiting any other request.

#### **DEFINITIONS**

Unless otherwise indicated, the following definitions shall apply.

1. The definitions and instructions set forth in Federal Rules of Civil Procedure 26 and 34 are incorporated herein by reference.

- 2. Any capitalized term not otherwise defined herein retains its meaning consistent with the Qualcomm ALA, dated May 31, 2013 ( ).
- 3. The term "Document" is defined to be synonymous in meaning and equal in scope to the usage of this term in Federal Rule of Civil Procedure 34(a), and to include, without limitation, all Communications, Things, and "writing[s]," "recording[s]," and "photograph[s]," as those terms are defined by Federal Rule of Evidence 1001, including, without limitation, electronic or computerized data compilations. A draft, prior or subsequent version, or non-identical copy is a separate "Document" within the meaning of the term. The term "Document" should also be deemed to include, without limitation, the file-folder, labeled-box, or notebook containing the Document, as well as any index, table of contents, list, or summaries that serve to organize, identify, or reference the Document.
- 4. "Communication" shall mean every manner of transmitting or receiving facts, information, thoughts or opinions, whether written, oral or by any other means, including but not limited to all memoranda, notices of meetings, electronic mail, text messages, conversations by telephone calls, records of conversations or messages whether in writing or upon any mechanical, electrical or electronic recording device, and oral conversations and statements.
- 5. "Concerning" is used in the broadest sense of the term and shall mean concerning, relating to, referring to, in connection with, describing, evidencing, constituting, containing, reflecting, constituting a basis for, commenting upon, mentioning, supporting, modifying, contradicting, disproving or criticizing.
- 6. "Defendant," "Arm," "you," and "your" mean Plaintiff Arm Holdings PLC and its predecessors, successors, affiliates, subsidiaries, parents, assignees, joint venturers, partners,

principals, employees, representatives, agents, officers, trustees, directors, attorneys, and all other Persons or entities acting or purporting to act on their behalf.

- 7. "Plaintiffs" means, collectively, Plaintiffs Qualcomm Inc. and Qualcomm Technologies, Inc., and their principals, employees, representatives, agents, and officers.
- 8. "Complaint" means the First Amended Complaint filed by Qualcomm in the District of Delaware on December 16, 2024, captioned *Qualcomm Inc.* v. *Arm Holdings PLC*, No. 24-490 (MN).
- 9. "ALA" means Architecture License Agreement, including all amendments and annexes to any such agreement.
- 10. "TLA" means Technology License Agreement, including all amendments and annexes to any such agreement.
- 11. "Person" means any natural person or any business, legal, governmental, or regulatory entity or association, and the "acts" of a Person are defined to include acts of trustees, directors, officers, owners, members, employees, agents, or attorneys acting on the Person's behalf.
- 12. "Third Party" or "Third Parties" means any Person other than Plaintiffs and Defendant, as defined in the foregoing paragraphs.
- 13. "Thing" and its plural form means any tangible thing under the Federal Rules, including, without limitation, objects of every kind and nature, as well as prototypes, models, and drafts.

14	4.			

- 15. "means the definition of "means" as set forth in Qualcomm ALA.
  - 16. "Answer" means Arm's Answer filed in response to Qualcomm's Complaint.
- 17. "ACK" means Arm's Architecture Compliance Kit or Arm's Architecture Validation Suite or Arm's Architecture Compliance Suite.
- 18. "means the definition of "means are forth in of the Qualcomm ALA.
  - 19. "OOB" means Arm's Out of Box tests.
- 20. As used in these requests, the singular shall include the plural, and the past tense shall include the present tense, and vice versa; the words "and" and "or" shall be both conjunctive and disjunctive; the word "all" shall mean "any and all"; the word "including" shall mean "including, without limitation," so as to be most inclusive.

#### **REQUESTS FOR PRODUCTION**

#### **REQUEST FOR PRODUCTION NO. 1:**

All Documents and Communications Arm referenced, relied upon, or otherwise used in drafting its Answer.

#### **REQUEST FOR PRODUCTION NO. 2:**

All Documents and Communications Arm contends support its defenses or that rebut its defenses.

#### **REQUEST FOR PRODUCTION NO. 3:**

Documents and Communications sufficient to show all error corrections, modifications, maintenance releases, and enhancements to the licensed under the Qualcomm ALA and released or distributed (internally or otherwise) since June 1, 2022.

#### **REQUEST FOR PRODUCTION NO. 4:**

All Documents and Communications concerning or bug fixes, updates, corrections, or any other technical improvement or information licensed under the Qualcomm ALA that was, after June 1, 2022, delivered to any other Arm licensee but not to Qualcomm.

#### **REQUEST FOR PRODUCTION NO. 5:**

All Documents and Communications since June 1, 2022 related to or concerning the Qualcomm's ACK or Qualcomm's OOB tests, and any patches thereto.

#### **REQUEST FOR PRODUCTION NO. 6:**

All versions of the ACK released after June 1, 2022, and any patches thereto.

#### **REQUEST FOR PRODUCTION NO. 7:**

All Documents and Communications concerning Arm's position that

of the Qualcomm ALA governs delivery of ACK deliverables listed in

of any of the Qualcomm ALA Annexes.

#### **REQUEST FOR PRODUCTION NO. 8:**

All Documents and Communications concerning or interpreting

of the Qualcomm ALA.

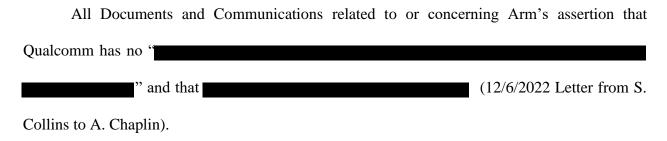
#### **REQUEST FOR PRODUCTION NO. 9:**

All Documents and Communications concerning or interpreting the definition of "", and sections governing verification, delivery, support, and any remedies for failure to deliver "in any Third Party ALAs.

#### **REQUEST FOR PRODUCTION NO. 10:**

All Documents and Communications concerning the withholding of or other deliverables from Qualcomm, including any Documents and Communications discussing Arm's justification(s) for those withholdings.

#### **REQUEST FOR PRODUCTION NO. 11:**



#### **REQUEST FOR PRODUCTION NO. 12:**

All Documents and Communications related to or concerning Qualcomm's notices of failure to deliver, sent to Arm on November 3, 2022 and December 5, 2022.

#### **REQUEST FOR PRODUCTION NO. 13:**

All Documents and Communications related to or concerning Arm's decision not to provide Qualcomm with OOB tests or ACK patches after receiving Qualcomm's November 3, 2022 and December 5, 2022 notices of failure to deliver.

#### **REQUEST FOR PRODUCTION NO. 14**:

All Documents and Communications concerning any inquiry or request made by Qualcomm to Arm regarding the Arm's development of v10 of the Arm ISA (including the April 17, 2020 email from Rajiv Gupta at Qualcomm to Lynn Couillard at Arm) and Arm's response to those inquiries.

#### **REQUEST FOR PRODUCTION NO. 15:**

All Documents and Communications concerning the past, current, or future development of another version of the Arm ISA, including but not limited to a v10 of the Arm ISA.

#### **REQUEST FOR PRODUCTION NO. 16**:

All Documents and Communications related to or concerning Arm's October 22, 2024 letter to Qualcomm alleging that Qualcomm is in breach of its ALA.

#### **REQUEST FOR PRODUCTION NO. 17**:

All Documents and Communications related to or concerning Arm's sharing of its October 22, 2024 letter to Qualcomm or the allegations contained in that letter with Third Parties.

#### **REQUEST FOR PRODUCTION NO. 18:**

All Documents and Communications related to or concerning Qualcomm's May 20, 2020 email from Brett Bettesworth to Lynn Couillard electing to extend the Qualcomm ALA and to negotiate the terms of the extension.

#### **REQUEST FOR PRODUCTION NO. 19:**

All Documents and Communications related to or concerning Arm's analysis or discussion of whether to extend the of the Qualcomm ALA following Qualcomm's May 20, 2020 email.

#### **REQUEST FOR PRODUCTION NO. 20:**

All Documents and Communications concerning Arm's discussions with Third Parties regarding the claims in Qualcomm's Complaint.

#### **REQUEST FOR PRODUCTION NO. 21**:

All Documents and Communications related to or concerning Arm's discussions with Third Parties regarding the status of Qualcomm's licenses with Arm.

#### **REQUEST FOR PRODUCTION NO. 22:**

All Documents and Communications related to or concerning Arm's discussions with Third Parties regarding Qualcomm's relationship with Arm.

#### **REQUEST FOR PRODUCTION NO. 23:**

All Documents and Communications related to or concerning the projected or forecasted impact to Arm's revenue or profits if the Qualcomm ALA is terminated.

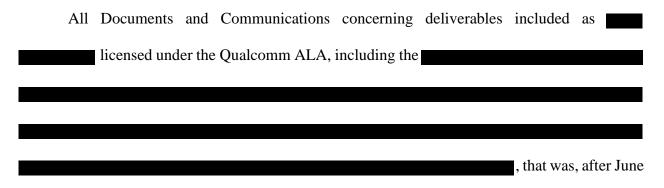
#### **REQUEST FOR PRODUCTION NO. 24:**

All Documents and Communications containing any analysis or evaluation of the projected or forecasted impact to Arm's revenue or profits if the Qualcomm ALA is terminated.

#### **REQUEST FOR PRODUCTION NO. 25:**

All Documents and Communications related to or concerning Arm's potential termination of the Qualcomm ALA.

#### **REQUEST FOR PRODUCTION NO. 26:**



1, 2022, delivered to any other Arm licensee but not to Qualcomm.

#### **REQUEST FOR PRODUCTION NO. 27:**

All ALAs and Annexes with Third Parties (i.e., parties other than Qualcomm).

#### **REQUEST FOR PRODUCTION NO. 28:**

All Documents and Communications concerning delivery of or bug fixes, updates, corrections, or any other technical improvement licensed under ALAs to third parties (*i.e.*, parties other than Qualcomm), including documents sufficient to show the licensee, the date of delivery, and the terms of any such delivery for any delivery that was not provided to Qualcomm.

#### **REQUEST FOR PRODUCTION NO. 29:**

All Documents and Communications with Arm's Board of Directors and/or Masayoshi Son concerning the decision to withhold deliverables, including or bug fixes, updates, corrections, or any other technical improvement or other information licensed under the Qualcomm ALA, from Qualcomm.

#### **REQUEST FOR PRODUCTION NO. 30:**

All Documents and Communications related to or concerning Arm's communications with Qualcomm regarding the delivery of \_\_\_\_\_\_ or other deliverables licensed under the Qualcomm ALA, including but not limited to communications from Arm to Qualcomm, informing Qualcomm that deliverables would be delayed or would need legal approval, and documents and communications regarding Arm's strategy or plans for communications with Qualcomm regarding the delivery of \_\_\_\_\_\_.

#### **REQUEST FOR PRODUCTION NO. 31:**

All Documents and Communications related to or concerning each ACK patch released since June 1, 2022, including documents related to the development process for each patch, the timeline for development, and each version of the Arm Architecture that the patch corresponds to.

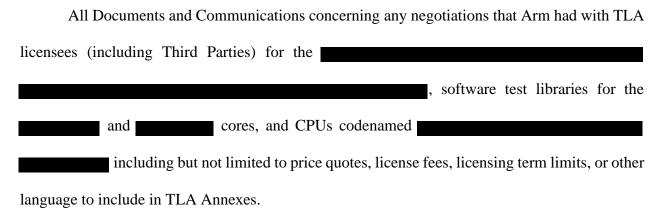
#### **REQUEST FOR PRODUCTION NO. 32:**

All Documents and Communications related to or concerning the delivery of ACK patches to any ALA partner other than Qualcomm.

#### **REQUEST FOR PRODUCTION NO. 33:**

All Documents and Communications concerning OOB tests, including the development process for OOB tests, the timeline to configure the ACK through the use of OOB tests, and any manuals or presentations describing the use of OOB tests with the ACK.

#### **REQUEST FOR PRODUCTION NO. 34:**



#### **REQUEST FOR PRODUCTION NO. 35**:

All Documents and Communications related to or concerning Arm's October 22, 2024 letter to Qualcomm.

#### **REQUEST FOR PRODUCTION NO. 36:**

All Documents and Communications related to or concerning Arm's sharing of the October 22, 2024 letter with Third Parties, including but not limited to Arm's decision to share the letter with Third Parties.

#### **REQUEST FOR PRODUCTION NO. 37:**

All Documents and Communications related to or concerning internal discussions of licensing v10 of the Arm ISA to Qualcomm, including discussions regarding whether to withhold v10 and potential pricing for v10.

#### **REQUEST FOR PRODUCTION NO. 38:**

All Documents and Communications concerning or related to Arm's January 8, 2025 letter to Qualcomm withdrawing the notice of termination of the Qualcomm ALA.

#### **REQUEST FOR PRODUCTION NO. 39:**

All Documents and Communications concerning or related to withholding from Qualcomm.

REQUEST FOR PRODUCTION NO. 40:

#### **REQUEST FOR PRODUCTION NO. 41**:

All Documents and Communications concerning the decision not to provide Qualcomm with information or documents related to the configuration or enablement of the including but not limited to communications regarding Qualcomm's requests for delivery of the

#### **REQUEST FOR PRODUCTION NO. 42**:

All Documents and Communications concerning the decision to introduce the v9 Architecture, including but not limited to the timing and reasoning for Arm's decision to move from v8 to v9 Architecture.

#### **REQUEST FOR PRODUCTION NO. 43**:

All Documents and Communications concerning the decision to introduce the v10 Architecture, including the timing and reasoning for Arm's decision to move from v9 to v10 Architecture and the differences between the v9 and v10 Architecture.

#### **REQUEST FOR PRODUCTION NO. 44:**

All Documents and Communications concerning the addition of instructions between v8 and v9 of the Arm ISA, and between v9 and v10 of the Arm ISA.

#### **REQUEST FOR PRODUCTION NO. 45**:

All Documents and Communications concerning Arm's analysis of whether v9 met the contractual definition of "assess" as defined at a of the Qualcomm ALA.

#### **REQUEST FOR PRODUCTION NO. 46:**

All Documents and Communications concerning "and a defined at the Qualcomm ALA."

#### **REQUEST FOR PRODUCTION NO. 47**:

Organizational charts for Arm's engineering, verification, product management, Intellectual Property Group, Internet of Things, and business departments, including names of subunit or team within a department and the names of leadership of each department and any sub-unit or team within a department.

#### **REQUEST FOR PRODUCTION NO. 48:**

All minutes or records of Arm's Technology Advisory Board meetings for the past 10 years, including documents sufficient to show the dates of each meeting, the attendees, and the matters discussed.

#### **REQUEST FOR PRODUCTION NO. 49:**

All Documents and Communications related to or concerning Qualcomm's notices of Arm's breach of of the Qualcomm TLA, sent to Arm on September 20, 2024 and September 27, 2024.

#### **REQUEST FOR PRODUCTION NO. 50:**

All Documents and Communications related to or concerning Qualcomm's notices of Arm's breach of of the Qualcomm TLA, sent to Arm on September 20, 2024 and September 27, 2024.

#### **REQUEST FOR PRODUCTION NO. 51:**

All Documents and Communications related to or concerning Arm's October 22, 2024 letter to Qualcomm regarding Arm's breach of the Qualcomm TLA.

#### **REQUEST FOR PRODUCTION NO. 52:**

Documents sufficient to show every ALA and TLA provided or made available to Nvidia or its counsel as part of Nvidia's planned acquisition of Arm.

/s/Jennifer Ying

OF COUNSEL:

Karen L. Dunn
William A. Isaacson
Melissa F. Zappala
Ruby J. Garrett
PAUL, WEISS, RIFKIND, WHARTON
& GARRISON LLP
2001 K Street, NW
Washington, DC 20006-1047
(202) 223-7300

Catherine Nyarady
Erin J. Morgan
Jacob A. Braly
PAUL, WEISS, RIFKIND, WHARTON
& GARRISON LLP
1285 Avenue of the Americas
New York, NY 10019-6064
(212) 373-3000

January 21, 2025

Jack B. Blumenfeld (#1014)
Jennifer Ying (#5550)
Travis Murray (#6882)
1201 North Market Street
P.O. Box 1347
Wilmington, DE 19899
(302) 658-9200
jblumenfeld@morrisnichols.com
jying@morrisnichols.com
tmurray@morrisnichols.com

MORRIS, NICHOLS, ARSHT & TUNNELL LLP

Attorneys for Plaintiffs

#### **CERTIFICATE OF SERVICE**

I hereby certify that on January 21, 2025, copies of the foregoing were caused to be served upon the following in the manner indicated:

Anne Shea Gaza, Esquire
Robert M. Vrana, Esquire
Samantha G. Wilson, Esquire
YOUNG CONAWAY STARGATT & TAYLOR, LLP
Rodney Square
1000 North King Street
Wilmington, DE 19801
Attorneys for Defendant

VIA ELECTRONIC MAIL

VIA ELECTRONIC MAIL

Scott F. Llewellyn, Esquire Morrison & Foerster LLP 4200 Republic Plaza 370 Seventeenth Street Denver, CO 80202 Attorneys for Defendant

Nicholas R. Fung, Esquire MORRISON & FOERSTER LLP 707 Wilshire Blvd., Suite 6000 Los Angeles, CA 90017 Attorneys for Defendant VIA ELECTRONIC MAIL

/s/ Jennifer Ying
Jennifer Ying (#5550)

# EXHIBIT 23

## IN THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF DELAWARE

QUALCOMM INCORPORATED,	)	
a Delaware corporation; and	)	
QUALCOMM TECHNOLOGIES, INC.,	)	
a Delaware corporation,	)	
	)	
Plaintiffs,	)	
	)	
v.	)	C.A. No. 24-490 (MN)
	)	
ARM HOLDINGS PLC., f/k/a ARM LTD.,	)	<b>CONFIDENTIAL</b>
a U.K. corporation,	)	
	)	
Defendant.	)	

#### QUALCOMM'S THIRD SET OF REQUESTS FOR PRODUCTION (NOS. 121-156)

Pursuant to Rules 26 and 34 of the Federal Rules of Civil Procedure and the Local Civil Rules of this Court, Plaintiffs Qualcomm Inc. and Qualcomm Technologies, Inc. (collectively, "Plaintiffs" or "Qualcomm") request that Defendant Arm Holdings PLC ("Arm") serve Qualcomm with its written responses to these requests for production and produce copies of the Documents and tangible things requested below at the law offices of Paul, Weiss, Rifkind, Wharton & Garrison LLP, 1285 Avenue of the Americas, New York, NY 10019-6064 within thirty (30) days of service.

#### **INSTRUCTIONS**

- 1. Pursuant to Rule 26(e) of the Federal Rules of Civil Procedure, these requests for Documents and things are continuing in nature. If, after producing the requested Documents and things, Arm obtains or becomes aware of any further responsive Document or thing, Arm shall produce to Qualcomm such additional Document or thing.
- 2. If Arm withholds any Document or thing based upon a claim of privilege or any other claim of immunity from discovery, Arm shall state the specific basis for withholding the Document or thing and describe the facts and circumstances giving rise to such withholding in

writing in a manner sufficient for Qualcomm to evaluate, and the Court to adjudicate, the merits of the claim.

- 3. If a claim of privilege is asserted with respect to any requested Document or thing, such Document or thing shall be scheduled on a privilege log that provides all of the information required by Rule 26(b)(5) of the Federal Rules of Civil Procedure subject to any agreement by the parties in this litigation regarding claims of privilege and privilege logs. To the extent a requested Document or thing contains non-privileged information, the privileged information shall be redacted from the same and the redacted version of the Document or thing produced.
- 4. If an objection is asserted with respect to any request for production of any Document or thing, Arm shall respond to the portion of the request believed to be unobjectionable and specifically identify that aspect of the request that Arm claims to be objectionable and why, pursuant to Federal Rule of Civil Procedure 34(b)(2).
- 5. If an objection is asserted with respect to any request for production of any Document or thing, Arm shall state whether Arm is withholding any responsive material on the basis of that objection, pursuant to Federal Rule of Civil Procedure 34(b)(2).
- 6. If Arm claims that information requested or required in response to any request for production of any Document or thing is also responsive to another request, Arm may not answer the request by referring to the answer to another request unless the answer to the request being referred to supplies a complete and accurate response to the request being answered, pursuant to Federal Rule of Civil Procedure 34(b)(2).
- 7. If, in responding to any request for production, any ambiguities in the request's wording are encountered, the response shall set forth the matter deemed ambiguous and the construction used in responding.

- 8. If a Document or thing that is responsive to any request for production has been destroyed, the response shall identify (i) the preparer of the Document or thing; (ii) its addresser (if different), addressee, and each recipient; (iii) each Person to whom it was distributed or shown; (iv) the date it was prepared; (v) the date it was transmitted (if different); (vi) the date it was received; (vii) a description of its contents and subject matter; (viii) the date of its destruction; (ix) the manner of its destruction; (x) the name, title, and address of the Person authorizing its destruction; (xi) the reason(s) for its destruction; (xii) the name, title and address of the Person destroying the Document or thing; and (xiii) a description of the efforts to locate the Document or thing and/or copies of it.
- 9. Responsive Documents or things should not be limited solely to those under Arm's physical custody, but should include those that are under its "possession, custody, or control," as that phrase is used in Rule 34 of the Federal Rules of Civil Procedure and has been interpreted by case law.
- 10. None of the definitions and instructions or the requests for production should be construed as an admission by Qualcomm relating to the existence of any evidence, to the relevance or admissibility of any evidence, or to the truth or accuracy of any statement or characterization in any definition, instruction, or request for production.
  - 11. No request shall be read as limiting any other request.

#### **DEFINITIONS**

Unless otherwise indicated, the following definitions shall apply.

1. The definitions and instructions set forth in Federal Rules of Civil Procedure 26 and 34 are incorporated herein by reference.

- 2. Any capitalized term not otherwise defined herein retains its meaning consistent with the Qualcomm ALA, dated May 31, 2013 ( ).
- 3. The term "Document" is defined to be synonymous in meaning and equal in scope to the usage of this term in Federal Rule of Civil Procedure 34(a), and to include, without limitation, all Communications, Things, and "writing[s]," "recording[s]," and "photograph[s]," as those terms are defined by Federal Rule of Evidence 1001, including, without limitation, electronic or computerized data compilations. A draft, prior or subsequent version, or non-identical copy is a separate "Document" within the meaning of the term. The term "Document" should also be deemed to include, without limitation, the file-folder, labeled-box, or notebook containing the Document, as well as any index, table of contents, list, or summaries that serve to organize, identify, or reference the Document.
- 4. "Communication" shall mean every manner of transmitting or receiving facts, information, thoughts or opinions, whether written, oral or by any other means, including but not limited to all memoranda, notices of meetings, electronic mail, text messages, conversations by telephone calls, records of conversations or messages whether in writing or upon any mechanical, electrical or electronic recording device, and oral conversations and statements.
- 5. "Concerning" is used in the broadest sense of the term and shall mean concerning, relating to, referring to, in connection with, describing, evidencing, constituting, containing, reflecting, constituting a basis for, commenting upon, mentioning, supporting, modifying, contradicting, disproving or criticizing.
- 6. "Defendant," "Arm," "you," and "your" mean Plaintiff Arm Holdings PLC and its predecessors, successors, affiliates, subsidiaries, parents, assignees, joint venturers, partners,

principals, employees, representatives, agents, officers, trustees, directors, attorneys, and all other Persons or entities acting or purporting to act on their behalf.

- 7. "Plaintiffs" means, collectively, Plaintiffs Qualcomm Inc. and Qualcomm Technologies, Inc., and their principals, employees, representatives, agents, and officers.
- 8. "Complaint" means the operative complaint filed by Qualcomm, including Qualcomm's Second Amended Complaint, which was the subject of a Motion for Leave to File a Second Amended Complaint filed on March 27, 2025.
- 9. "ALA" means Architecture License Agreement, including all amendments and annexes to any such agreement.
- 10. "TLA" means Technology License Agreement, including all amendments and annexes to any such agreement.
- 11. "Person" means any natural person or any business, legal, governmental, or regulatory entity or association, and the "acts" of a Person are defined to include acts of trustees, directors, officers, owners, members, employees, agents, or attorneys acting on the Person's behalf.
- 12. "Third Party" or "Third Parties" means any Person other than Plaintiffs and Defendant, as defined in the foregoing paragraphs.
- 13. "Thing" and its plural form means any tangible thing under the Federal Rules, including, without limitation, objects of every kind and nature, as well as prototypes, models, and drafts.

14	4.			

- 15. "means the definition of "means" as set forth in Qualcomm ALA.
  - 16. "Answer" means Arm's Answer filed in response to Qualcomm's Complaint.
- 17. "ACK" means Arm's Architecture Compliance Kit or Arm's Architecture Validation Suite or Arm's Architecture Compliance Suite.
- 18. "means the definition of "means" as set forth in of the Qualcomm ALA.
  - 19. "OOB" means Arm's Out of Box tests.
  - 20. "ISA" means Arm's A-Profile Instruction Set Architecture.
- 21. As used in these requests, the singular shall include the plural, and the past tense shall include the present tense, and vice versa; the words "and" and "or" shall be both conjunctive and disjunctive; the word "all" shall mean "any and all"; the word "including" shall mean "including, without limitation," so as to be most inclusive.

#### **REQUESTS FOR PRODUCTION**

#### **REQUEST FOR PRODUCTION NO. 121:**

All Documents and Communications relating to or concerning negotiations between Arm and , or its subsidiaries, related to Arm's effort to supply with silicon chips.

#### **REQUEST FOR PRODUCTION NO. 122:**

All Documents and Communications relating to or concerning Arm's knowledge since January 1, 2022 that any Third Party is or has been a customer for Qualcomm CPUs or other products.

# All agreements licensing codenamed, including TLAs and corresponding Annexes.

#### **REQUEST FOR PRODUCTION NO. 124:**

All licensing fee and royalty information for licenses offered by Arm for codenamed

#### **REQUEST FOR PRODUCTION NO. 125:**

All Documents and Communications relating to or concerning Arm's investigation into or review of any Arm license agreement with a third party for codenamed , including pursuant to the Qualcomm TLA, following Qualcomm's written requests to license those cores in April and August 2024.

#### **REQUEST FOR PRODUCTION NO. 126:**

All Documents and Communications relating to or concerning the article written by Financial Times on February 13, 2025 titled "Arm to launch its own chip in move that could upend semiconductor industry".

#### **REQUEST FOR PRODUCTION NO. 127:**

All Communications with Financial Times, Matthew Garrahan, Tim Bradshaw, or David Keohane relating to or concerning Arm's efforts to launch and distribute its own silicon chips and to secure as a customer.

#### **REQUEST FOR PRODUCTION NO. 128:**

All Documents and Communications relating to or concerning discussions between Arm or Softbank and Ampere related to Qualcomm.

#### **REQUEST FOR PRODUCTION NO. 129:**

All Documents and Communications relating to or concerning discussions between Arm or Softbank and Ampere related to Softbank's planned acquisition of Ampere.

#### **REQUEST FOR PRODUCTION NO. 130:**

All Documents and Communications relating to or concerning Softbank's planned acquisition of Ampere.

#### **REQUEST FOR PRODUCTION NO. 131:**

All Documents and Communications relating to or concerning changes or modifications to the Ampere ALA and Annexes and the Ampere TLA and Annexes, whether implemented or not, in connection with Softbank's planned acquisition of Ampere.

#### **REQUEST FOR PRODUCTION NO. 132:**

All Documents and Communications relating to or concerning negotiations with Ampere in connection with Softbank's planned acquisition of Ampere.

#### **REQUEST FOR PRODUCTION NO. 133:**

All Documents and Communications relating to or concerning negotiations with Ampere discussing or concerning Qualcomm.

#### **REQUEST FOR PRODUCTION NO. 134:**

Documents identifying any of Arm's customer relationship management systems ("CRMs"), including but not limited to Salesforce, Salesforce CPQ and Salesforce Sales Cloud, and any other internal or external CRM systems or software.

#### **REQUEST FOR PRODUCTION NO. 135:**

Documents sufficient to show all fields and record types maintained in any CRM system used by Arm.

#### **REQUEST FOR PRODUCTION NO. 136:**

Documents sufficient to show sales processes and workflows used by Arm in its CRM systems to track potential and actual Arm customers.

#### **REQUEST FOR PRODUCTION NO. 137:**

All Documents maintained in Arm's CRM systems related to communications with customers concerning Qualcomm.

#### **REQUEST FOR PRODUCTION NO. 138:**

All Documents maintained in Arm's CRM systems containing information concerning Arm's plans and efforts to manufacture and sell its own silicon.

#### **REQUEST FOR PRODUCTION NO. 139:**

All Documents and Communications relating to or concerning the resources, including time allocation and funds spent, required for Arm to create ACK patches, in whole or in part, since January 1, 2022.

#### **REQUEST FOR PRODUCTION NO. 140:**

All TLAs and corresponding Annexes entered into since January 1, 2019.

#### **REQUEST FOR PRODUCTION NO. 141:**

All Documents and Communications sufficient to show deliverables that Arm claims it provided to Qualcomm, including \_\_\_\_\_\_\_, but that Qualcomm alleges it did not receive pursuant to the Qualcomm ALA.

#### **REQUEST FOR PRODUCTION NO. 142:**

All Documents and Communications showing deliverables, including , that were provided to Qualcomm pursuant to the Qualcomm ALA since January 1, 2022.

#### **REQUEST FOR PRODUCTION NO. 143:**

All Documents and Communications relating to or concerning

#### **REQUEST FOR PRODUCTION NO. 144:**

All Documents and Communications relating to or concerning the facts discussed in Arm's response to Qualcomm's Interrogatory Number 3.

#### **REQUEST FOR PRODUCTION NO. 145:**

All Communications with FGS Global concerning Qualcomm, including but not limited to Arm's October 22, 2024 letter, and all Communications related to meetings or calls between and Third Parties.

#### **REQUEST FOR PRODUCTION NO. 145:**

All Documents and Communications relating to or concerning Arm's statement provided
to, or communications with,
concerning Arm's October 22, 2024 letter.

#### **REQUEST FOR PRODUCTION NO. 146:**

All Communications with Morrison & Foerster concerning Arm's October 22, 2024 letter related to meetings or calls between Morrison & Foerster and Third Parties.

#### **REQUEST FOR PRODUCTION NO. 147:**

All Communications between and Third Parties concerning Arm's October 22, 2024 letter.

#### **REQUEST FOR PRODUCTION NO. 148:**

All Communications with relating to or concerning Qualcomm.

#### **REQUEST FOR PRODUCTION NO. 149:**

All Communications with \_\_\_\_\_ concerning Arm's October 22, 2024 letter.

#### **REQUEST FOR PRODUCTION NO. 150:**

All Documents and Communications relating to role on the

#### **REQUEST FOR PRODUCTION NO. 151:**

All Documents and Communications responsive to Qualcomm's prior Requests for Production to the extent that Arm withheld production pending Qualcomm's amendment of its Complaint.

#### **REQUEST FOR PRODUCTION NO. 156:**

All Documents and Communications relating to or concerning changes in Arm's behavior towards Qualcomm, including decisions to provide deliverables and licensing offers to Qualcomm pursuant to the Qualcomm ALA and TLA, following the jury verdict in *Arm* v. *Qualcomm* (22-1146-MN).

### MORRIS, NICHOLS, ARSHT & TUNNELL LLP

#### OF COUNSEL:

Karen L. Dunn
William A. Isaacson
Melissa F. Zappala
Ruby J. Garrett
PAUL, WEISS, RIFKIND, WHARTON
& GARRISON LLP
2001 K Street, NW
Washington, DC 20006-1047
(202) 223-7300

Catherine Nyarady
Erin J. Morgan
Jacob A. Braly
PAUL, WEISS, RIFKIND, WHARTON
& GARRISON LLP
1285 Avenue of the Americas
New York, NY 10019-6064
(212) 373-3000

April 2, 2025

#### /s/Jennifer Ying

Jack B. Blumenfeld (#1014)
Jennifer Ying (#5550)
Travis Murray (#6882)
1201 North Market Street
P.O. Box 1347
Wilmington, DE 19899
(302) 658-9200
jblumenfeld@morrisnichols.com
jying@morrisnichols.com
tmurray@morrisnichols.com

Attorneys for Plaintiffs

#### **CERTIFICATE OF SERVICE**

I hereby certify that on April 2, 2025, copies of the foregoing were caused to be served upon the following in the manner indicated:

Anne Shea Gaza, Esquire
Robert M. Vrana, Esquire
Samantha G. Wilson, Esquire
YOUNG CONAWAY STARGATT & TAYLOR, LLP
Rodney Square
1000 North King Street
Wilmington, DE 19801
Attorneys for Defendant

Scott F. Llewellyn, Esquire
MORRISON & FOERSTER LLP
4200 Republic Plaza
370 Seventeenth Street
Denver, CO 80202

Attorneys for Defendant

Nicholas R. Fung, Esquire Henry Huttinger, Esquire MORRISON & FOERSTER LLP 707 Wilshire Blvd., Suite 6000 Los Angeles, CA 90017 Attorneys for Defendant

Kyle W.K. Mooney, Esquire Kyle D. Friedland, Esquire MORRISON & FOERSTER LLP 250 West 55th Street New York, NY 10019 Attorneys for Defendant

Erik J. Olson, Esquire MORRISON & FOERSTER LLP 755 Page Mill Road Palo Alto, CA 94304 Attorneys for Defendant VIA ELECTRONIC MAIL

## Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 287 of 616 PageID #: 26780

Gregg F. LoCascio, P.C. Jason M. Wilcox, P.C. KIRKLAND & ELLIS LLP 1301 Pennsylvania Avenue, N.W. Washington, D.C. 20004 Attorneys for Defendant

Jay Emerick, Esquire KIRKLAND & ELLIS LLP 333 West Wolf Point Plaza Chicago, IL 60654 Attorneys for Defendant VIA ELECTRONIC MAIL

VIA ELECTRONIC MAIL

/s/ Jennifer Ying
Jennifer Ying (#5550)

# EXHIBIT 24

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 26782

PAUL, WEISS, RIFKIND, WHARTON & GARRISON LLP

1285 AVENUE OF THE AMERICAS NEW YORK, NEW YORK 10019-6064

TELEPHONE (212) 373-3000

EXAL DIRECT DIAL: + 1 212 373 3532 EMAIL: CNYARADY@PAULWEISS.COM Page 289 of 616 PageID #:

BRUSSELS
HONG KONG
LONDON
LOS ANGELES
SAN FRANCISCO

TORONTO
WASHINGTON, DC
WILMINGTON

July 11, 2025

#### Via Email

Highly Confidential - Attorneys' Eyes Only

Peter Evangelatos Kirkland & Ellis LLP 601 Lexington Avenue New York, NY 10022

> Re: Qualcomm Inc. v. Arm Holdings Plc. C.A. No. 24-00490-MN

Dear Peter,

We write regarding the deposition of Akshay Bhatnagar on July 10, 2025. During that deposition, Mr. Bhatnagar testified that

Id. at 44:18-21, 44:25-45:7. When we asked Arm to produce this document, you responded that

Arm still has not produced that

Id. at 45:10-11.

Arm still has not produced that

Arm's failure to produce this document has severely prejudiced Qualcomm's ability to prosecute its case, including by impeding its ability to depose Messrs. Shivashankar and Bhatnagar. Please confirm that you will produce this

, and any related emails or chats, by Monday, July 14.

Qualcomm reserves all rights.

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 290 of 616 PageID #: 26783

PAUL, WEISS, RIFKIND, WHARTON & GARRISON LLP

Sincerely,

/s/ Catherine Nyarady

2

Catherine Nyarady

# EXHIBIT 25

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 26785

PAUL, WEISS, RIFKIND, WHARTON & GARRISON LLP

1285 AVENUE OF THE AMERICAS NEW YORK, NEW YORK 10019-6064

TELEPHONE (212) 373-3000

EXAL DIRECT DIAL: + 1 2 1 2 373 3532 EMAIL: CNYARADY@PAULWEISS.COM Page 292 of 616 PageID #:

BRUSSELS
HONG KONG
LONDON
LOS ANGELES
SAN FRANCISCO

TORYO
TORONTO
WASHINGTON, DC
WILMINGTON

July 16, 2025

#### Via Email

Jay Emerick Kirkland & Ellis LLP 333 West Wolf Point Plaza Chicago, IL 60654

> Re: Qualcomm Inc. v. Arm Holdings Plc. C.A. No. 24-00490-MN

Dear Jay,

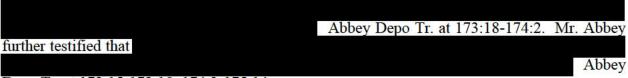
We write regarding outstanding document requests made during or immediately after the depositions of Arm witnesses, including Martin Weidmann, Karthik Shivashankar, Akshay Bhatnagar, Will Abbey, Ehab Youssef, Jeff Fonseca, Vivek Agrawal, Andrew Howard, Jannik Nelson, and Christine Tran. Arm's deficient production and improper privilege assertions continue to severely prejudice Qualcomm's ability to prosecute its case, particularly now after the close of fact discovery. Arm must immediately produce the documents requested below. To the extent Arm continues to withhold responsive documents based on any claim of privilege, Arm must immediately supplement its privilege log to include the withheld documents.

#### **Documents Showing**

On June 23, 2025, Qualcomm requested various unproduced documents based on the
deposition testimony of Karthik Shivashankar, including documentation containing the
See 6/23/25 Letter from C.
Nyarady to J. Emerick. To date, Arm has not responded to our June 23 letter.
Qualcomm reiterated its request for production of documents
on July 8, 2025, based on additional deposition testimony from Ehab Youssef and
Will Abbey. 7/8/25 Letter from C. Nyarady to Nick Fung. Qualcomm also noted that,
. Qualcomm requested that Arm

immediately provide a supplemental privilege log to identify the entries corresponding to the

. To date, Arm has not responded to our July 8 letter and has not provided the requested privilege log entries.
Qualcomm again reiterated its request for production of documents underlying the October 2024 TLA Offers on July 9, 2025, specifically requesting based on Arm's request for an additional reminder during to the deposition of Jeff Fonseca. 7/9/25 Email from E. Westerhold to Brain Kramer. Arm responded on July 9, 2025, stating that
7/9/2025 Email from P. Evangelatos to E. Westerhold.
On July 11, 2025 Qualcomm requested additional documents relevant to the 2024 TLA Offers based on the deposition testimony of Akshay Bhatnagar. 7/11/2025 Letter from C. Nyarady to P. Evangelatos. Specifically, Mr. Bhatnagar testified that
Bhatnagar Tr. 44:4-17. He also repeatedly described that  Id. at 44:18-21, 44:25-45:7. To date, Arm has not responded to our July 11 letter or produced the requested spreadsheet.
Arm's has produced a single email chain and attachment regarding the 2024 TLA Offers. ARMQC_02784199; ARMQC_02784204. Qualcomm objects to the continued redaction of ARMQC_02784199 and ARMQC_02784204 for the reasons set forth in our July 8, 2025 Letter, and notes that Arm has refused to justify any continued privilege claim. In any event, a single email chain and attachment is obviously insufficient to fulfill Qualcomm's various requests noted above for the product of
Qualcomm hereby reiterates its various requests for production made above in full.  Specifically, Qualcomm requests production of all documentation of the including the pending resolution of the protective order dispute.
Documents Related to the "Discussion" with Bloomberg News Regarding Arm's Notice of Termination
On July 8, 2025, Qualcomm requested production of documents regarding Arm's communications with Bloomberg News based on the deposition testimony of Will Abbey. During his deposition, Mr. Abbey testified that
Abbey Depo Tr. at 160:5-15. On redirect, Arm elicited testimony from Mr. Abbey that
Abbey Depo Tr. at 165:13-21.



Depo Tr. at 172:15-173:10, 174:3-175:14.

Arm has since provided its Second Supplemental Initial Privilege Log containing entries for some of these communications. However, Qualcomm maintains that privilege over these communications has been waived by Mr. Abbey's redirect testimony.

Specifically, privilege has been waived for Mr. Abbey's

As such, Arm must immediately produce all documentation of the "discussion" between Arm and Bloomberg News, whether that "discussion" was conducted through its counsel at Morrison & Forrester or through other agents.

#### **Documents Requested During the Deposition of Martin Weidmann**

On June 23, 2025, Qualcomm requested documents showing an instruction from Arm management not to support Nuvia designs, and the rescinding of that instruction, both based on the testimony of Mr. Weidmann:

• Mr. Weidmann testified that

Rough Tr. 115:5–116:19. Qualcomm requested production of these emails during Mr. Weidmann's deposition, and Counsel for Arm stated that

Tr. 116:16–117:10.

Mr. Weidmann further testified that

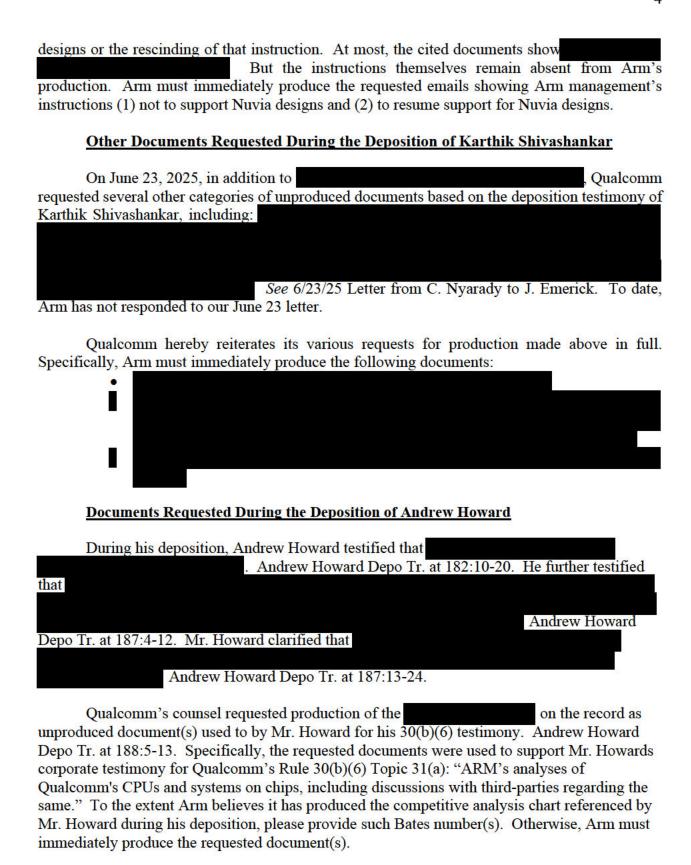
Rough Tr. 124:11–125:11.

6/23/25 Letter from C. Nyarady to J. Emerick.

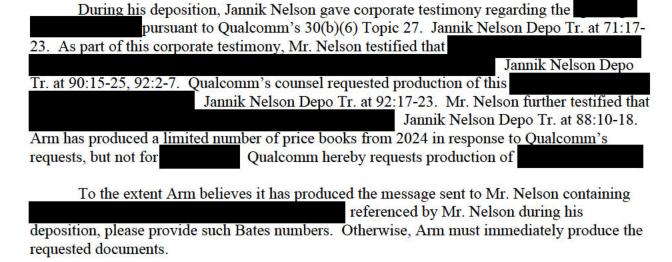
Hearing no response for weeks, Qualcomm again requested the production of the documents noted above on July 10, 2025. 7/10/25 Email from J. Apkon. In response, Arm stated that

7/10/25 Email from A. Janes.

Qualcomm disagrees that Arm's production is sufficient in either regard. None of the documents cited in Mr. Janes' email contain the instruction from management not to support Nuvia



#### **Documents Requested During the Deposition of Jannik Nelson**



#### **Documents Requested During the Deposition of Vivek Agrawal**

Exhibit QCX273 (ARMQC 02784227), introduced during Mr. Agrawal's deposition, is a

Vivek Agrawal Depo Tr. at 185:10-186:12. Mr. Agrawal testified that

Vivek Agrawal Depo Tr. at 186:13-22. Qualcomm's counsel requested production of the

Vivek Agrawal Depo Tr. at 186:23-187:1.

Arm must immediately produce the requested confluence page in full, readable form.

Exhibit QCX274 (ARMQC 02784661) and QCX275 (ARMQC 02784664) both introduced during Mr. Agrawal's deposition, are Vivek Agrawal Depo Tr. at 187:2-188:15. Arm has redacted various messages in both documents for privilege, from both Mr. Agrawal and from Copilot. Qualcomm's counsel requested production of unredacted copies of Exhibit QCX274 and QCX275 on the record. Vivek Agrawal Depo Tr. at 188:16-22. Copilot is an AI chatbot provided by Microsoft. Microsoft, a third-party, logs user queries to Copilot and Copilot's responses. See <a href="https://learn.microsoft.com/en-us/copilot/microsoft-">https://learn.microsoft.com/en-us/copilot/microsoft-</a> 365/microsoft-365-copilot-privacy?source=recommendations#data-stored-about-userinteractions-with-microsoft-365-copilot ("When a user interacts with Microsoft 365 Copilot... we store data about these interactions. The stored data includes the user's prompt and Copilot's response."). Arm cannot claim privilege over communications from Mr. Agrawal, or any other Arm employee, sent to Microsoft as part of a Copilot chat. Arm also cannot claim privilege over Copilot's responses, which are messages generated by a third-party AI chatbot. Arm must immediately produce unredacted versions of QCX274 and QCX275, as well as any other production documents containing Copilot chat messages, whether queries or responses, that Arm has redacted for privilege.

#### **Documents Requested During the Deposition of Christine Tran**

Exhibit QCX258 (ARM 01426582), introduced during Ms. Tran's deposition, is an . Christine Tran Depo Tr. at 110:9-111:21. QCX258 includes two redacted emails from Lynn Couillard on May 20, 2020 and June 5, 2020 that are unredacted in another version of the email chain which Arm has previously produced, QCX259 (ARM\_00085567). Christine Tran Depo Tr. at 111:22-115:8. Qualcomm's counsel requested production of an unredacted copy of QCX258 on the record. Christine Tran Depo Tr. at 115:9-12. Arm must immediately produce a copy of QCX258 with appropriate privilege redactions, removing redactions at least for the duplicate messages that are shown unredacted in QCX259.

Qualcomm reserves all rights.

Sincerely,

/s/ Catherine Nyarady

Catherine Nyarady

# EXHIBIT 26

From: <u>Jenifer Hartley</u>

To: #KE-ARM-Qualcomm; MoFo Arm QCOM; ycst arm qualcomm
Cc: Qualcommv Arm; GRP-QCvARM; jying@morrisnichols.com

Subject: Qualcomm v. Arm - Production of Spreadsheet

**Date:** Monday, October 6, 2025 7:18:19 PM

Attachments: Outlook-ppzpufzy.png

Counsel,	
We write regarding the	that Akshay Bhatnagar testified that
which Overlands and ha	and a stable was a stable at American along a Constant
	s repeatedly requested that Arm produce. See, e.g., 5:24; 2025.07.11 Ltr. from C. Nyarady to J. Emerick;
2025.07.16 Ltr. from C. Nyarady to	
2020.07.10 Ett. 110111 G. Ttydrady to	7. Emonok dt 2.
Arm has represented that	
	. See, e.g., 2025.07.24 Ltr. from J. Emerick to C. Nyarady
	Tr. 38:4-17; 2025.08.14 Special Master Hearing Tr. 245:12-
	ument in its entirety, notwithstanding that it indisputably to any pending motion for a protective order (e.g.,
Contains information not subject to	o any pending motion for a protective order (e.g.,
).	
Given that the third-party motions	remain pending less than three weeks before the parties'
·	nat there is no need for Arm to withhold this document in its
	identiality concerns, please produce a copy of this
	ns for the confidential information of any third party that has
a motion for a protective order per	nding. Of course, Qualcomm expects that Arm will produce with redactions removed in accordance with the Special
Master's order once the pending n	
Please confirm by the close of bus	siness on October 7 that Arm will produce a redacted copy of
this document this week or provid	e your availability to meet and confer on October 7 or 8.
Best,	
Jen	

Jen Hartley | Associate

Dunn Isaacson Rhee LLP

jhartley@dirllp.com

(202) 240-2922 (direct) | 401 9th Street NW, Washington, DC 20004



#### Website | LinkedIn

Admitted in New York only. Practice is supervised by D.C. Bar members.

This email may contain material that is confidential, privileged and/or attorney work product for the sole use of the intended recipient. Any review, disclosure, reliance, or distribution by others or forwarding without express permission is strictly prohibited. If you are not the intended recipient, please contact the sender and delete all copies including any attachments.

# EXHIBIT 27

### IN THE UNITED STATES DISTRICT COURT FOR THE DISTRICT OF DELAWARE

QUALCOMM INCORPORATED,	
a Delaware corporation; and	)
QUALCOMM TECHNOLOGIES, INC.,	)
a Delaware corporation,	
Plaintiffs,	) C.A. No. 24-490 (MN)
v.	) SUBMITTED UNDER SEAL – ) HIGHLY CONFIDENTIAL –
ARM HOLDINGS PLC., f/k/a ARM LTD., a U.K. corporation,	) ATTORNEYS' EYES ONLY
Defendant.	)

#### PLAINTIFFS' LETTER TO SPECIAL MASTER HELENA C. RYCHLICKI REGARDING SUBSEQUENT EVENTS RELATING TO THEIR MOTION TO COMPEL PRODUCTION OF ARM'S ANALYSIS OF THIRD-PARTY LICENSES

#### OF COUNSEL:

Catherine Nyarady
Jacob A. Braly
Jacob Apkon
PAUL, WEISS, RIFKIND,
WHARTON & GARRISON LLP
1285 Avenue of the Americas
New York, NY 10019
(212) 373-3000

Adam Basner
PAUL, WEISS, RIFKIND,
WHARTON & GARRISON LLP
2001 K Street, NW
Washington, DC 20006
(202) 223-7300

Karen L. Dunn William A. Isaacson Melissa F. Zappala DUNN, ISAACSON, RHEE LLP 401 Ninth Street NW Washington, DC 20004 (202) 240-2900 MORRIS, NICHOLS, ARSHT & TUNNELL LLP
Jack B. Blumenfeld (#1014)
Jennifer Ying (#5550)
Travis Murray (#6882)
1201 North Market Street
P.O. Box 1347
Wilmington, DE 19899
(302) 658-9200
jblumenfeld@morrisnichols.com
jying@morrisnichols.com
tmurray@morrisnichols.com

Attorneys for Plaintiffs

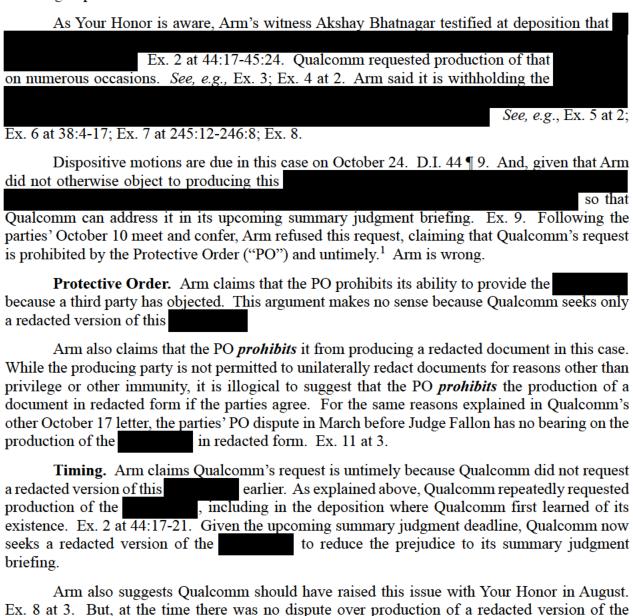
Erin J. Morgan DUNN, ISAACSON, RHEE LLP 11 Park Place New York, NY 10007 (202) 240-2900

October 17, 2025

Dear Special Master Rychlicki:

version of the

Pursuant to D. Del. LR 7.1.2, Plaintiffs write to advise Your Honor of newly-learned facts and subsequent events that have occurred since the August hearings that relate to Qualcomm's pending motion to compel production of documents related to Arm's analysis of Qualcomm's licensing requests. Ex. 1 at 4-5.



parties' discovery disputes, Qualcomm made a reasonable, good faith request for a redacted

. Arm's refusal to provide those portions of the

. In light of the upcoming summary judgment deadline and the current status of the

that it can

<sup>&</sup>lt;sup>1</sup> To the extent Arm separately contends that any part of the spreadsheet is privileged, Ex. 10 at 17:2-9, the Protective Order permits such privilege redactions. Qualcomm reserves all rights to challenge any privilege designation.

at this time, based on an illogical reading of the protective order and meritless timing allegations, is improper and prejudices Qualcomm in the upcoming briefing.

Qualcomm respectfully requests that Arm be compelled to produce a redacted version of the pending resolution of the third-party protective order motions.

Respectfully submitted,

/s/ Jennifer Ying

Jennifer Ying (#5550) Words: 589

Encls.

# EXHIBIT 28

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 306 of 616 PageID #: 26799

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

## **United States District Court District of Delaware**

Qualcomm Incorporated and Qualcomm Technologies, Inc.,

Plaintiffs,

v.

Civil Action No. 1:24-cv-00490-MN

Arm Holdings plc., f/k/a Arm Ltd.,

Defendant.

Rebuttal Expert Report of Professor Timothy S. Simcoe

**September 5, 2025** 

HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 307 of 616 PageID #: 26800

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

#### **TABLE OF CONTENTS**

I.	ASSIGNMENT AND QUALIFICATIONS	5
II.	SUMMARY OF OPINIONS	7
III.	BACKGROUND AND INDUSTRY OVERVIEW	. 19
	A. Overview of Semiconductor Technology and Value Chain	. 20
	B. Segments and Competitive Dynamics	. 23
	C. Arm's Business Model and Licensing Structure	. 25
	D. Qualcomm's Business Model	. 29
IV.	ORIGIN OF THE DISPUTE	. 33
V.	PROF. POSNER'S ANALYSIS OF THE RELEVANT MARKETS AND MARKET POWER IS INCOMPLETE AND IGNORES KEY FEATURES OF THE INDUSTRY	. 37
	A. Prof. Posner Improperly Disregards the Competitive Constraint from the x86 and RISC-V Ecosystems	
	B. Arm's ISA Share Varies Significantly Across Chip Application Segments	. 45
VI.	PROF. POSNER AND DR. KENNEDY PROVIDE NO EVIDENCE THAT QUALCOMM HAS SUFFERED HARM FROM ARM'S ALLEGED ANTICOMPETITIVE CONDUCT	. 47
	A. Qualcomm's Strong Financial Performance Since the Acquisition of Nuvia	. 49
	B. No Evidence of Lost Business	. 55
	3. Qualcomm's Broader Customer Base Was Not Harmed	. 67
VII.	PROF. POSNER'S CLAIM THAT ARM HAS THE ABILITY AND INCENTIVE TO FORECLOS QUALCOMM IS BASED ON AN INCOMPLETE ANALYSIS THAT IGNORES KEY FACTS AN IS UNTETHERED FROM SOUND ECONOMIC ANALYSIS	D
	A. Relevant Economic Framework	. 72
	1. Arm's Licensing Strategy Is Tailored to Partner-Specific Circumstances	. 72
	The Nuvia Agreement Illustrates Arm's Legitimate Interest in Managing Risk Securing Value	

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

		3.	Qualcomm and Prof. Posner Have Not Demonstrated that Arm's Dispute with Qualcomm Is Anticompetitive Conduct Rather than a Standard Commercial Disagreement	. 79
		4.	Protecting Competition Does Not Require Arm to License Its ISA on Qualcomm's Preferred Terms	. 82
	B.	Pr	of. Posner's Opinions on Ability to Foreclose Are Flawed	. 85
	C.		of. Posner Does Not Account for Costs that Arm Would Suffer from the leged Foreclosure of Qualcomm and Other Customers	. 88
		1.	The Role of Qualcomm and Other Partners in Expanding Arm's Success and Ecosystem Against Alternative ISAs	. 89
		2.	Qualcomm's Successful Business Diversification Strategy Disincentivizes Arm from Foreclosing Qualcomm	
		3.	Prof. Posner's Diversion Analysis Is Incomplete and Ignores Important Foreclosure Costs that Arm Would Incur	100
	D.	Fo	oreclosure of Qualcomm Alone Would Unlikely Be Profitable for Arm 1	106
VIII.	AN	TIC Ar	POSNER HAS NOT DEMONSTRATED THAT ARM'S CONDUCT IS COMPETITIVE	107
	В.	Ar	m's Entry into the Chip Design Stage of the Value Chain Is Procompetitive	
		1.	The Start of the Alleged Foreclosure Significantly Predates Arm's Data Center Chip Launch	
		2.	Vertical Integration Is Common and Typically Beneficial	111
		3.	Arm's Ecosystem Remains Open	120
	C.	In	creases in Royalty Rates Are Not Inherently Anticompetitive 1	127
		1.	Arm's Share of the Chip "Stack" Is Smaller than Qualcomm's	129
		2.	Price Increases Are Not Inherently Anticompetitive	132
	D.	"D	Dominant" Shares Do Not Imply a Lack of Competitive Pressure 1	136
		1.	Arm Continues to Invest a Significant Portion of Its Revenue	136
		2.	Current High Shares Do Not Guarantee Future High Shares	141

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 309 of 616 PageID #: 26802

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Χ.	APPE	NDICES16	3
	C. Tl	here Is No Evidence of Harm to Competition15	9
	B. A.	rm's Litigation Position Was Public and Transparent from as Early as 2022	3
	_	ualcomm Has Not Demonstrated that Arm Had Anticompetitive Intent 15	2
IX.		. Posner Has Not Demonstrated that Arm's Conduct Harmed Petition and Consumers	0
	4.	There Is No Evidence that Arm's Purported Decision to Stop Supporting v8 Is Anticompetitive	.9
	3.	Any Attempt by Arm to Foreclose Customers Would Accelerate Development of Alternatives such as RISC-V	

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 310 of 616 PageID #: 26803

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

#### I. ASSIGNMENT AND QUALIFICATIONS

- 1. My name is Timothy S. Simcoe. I am the David J. McGrath Jr. Professor and Chair of the Strategy and Innovation department at the Boston University Questrom School of Business. I am also a faculty director of the Boston University Technology Policy Research Initiative, and a Research Associate at the National Bureau of Economic Research.
- 2. I received my Bachelor's degree in Applied Math with Economics from Harvard College in 1995. I received a Master's degree in Economics in 2003, and a Doctorate in Business Administration in 2004, both from the University of California at Berkeley. During the 2014-2015 academic year, I served as a Senior Economist on the President's Council of Economic Advisers.
- 3. As a professor at Boston University, I teach business strategy to students in both the Master of Business Administration program and the undergraduate business concentration. This business strategy course covers topics such as the commercialization of new technologies, industry evolution, industry structure, and strategic positioning. I also teach a Technology Strategy course to MBA and executive MBA students, a course in Data Analysis to executive MBA students, and a PhD-level class in research methods.
- 4. I have published more than 25 peer reviewed academic articles, including in top academic economic journals such as the *American Economic Review, Management Science*, and the *RAND Journal of Economics*. I have also published numerous articles in other widely read outlets, such as policy and antitrust publications. My academic work primarily falls under the economic discipline of Industrial Organization, which studies topics including competition between firms, market power, monopolies, and antitrust issues. My research covers topics including technological interoperability, innovation, and intellectual property ("IP").
- 5. A copy of my curriculum vitae, including a list of my prior testimony during the past five years, is attached as **Appendix A.**

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

- 6. A list of materials that I relied upon in reaching the opinions expressed in this report is attached as **Appendix B**.<sup>1</sup>
- 7. I have been asked by Counsel for Arm to provide an economic assessment of Qualcomm's claims that Arm has engaged in anticompetitive conduct that has caused economic harm to Qualcomm,<sup>2</sup> and that "Arm's actions are part of a broader campaign to harm or threaten to harm competition for central processing units ("CPUs") and other computer chip designs, in California and elsewhere."<sup>3</sup> I have also been asked to review and respond to the analysis and conclusions in the expert report of Prof. Posner, and to some aspects of Dr. Kennedy's analysis.<sup>4</sup>
- 8. The opinions I offer in this report are based on my review of Qualcomm's Second Amended Complaint ("SAC"), Prof. Eric A. Posner's August 8, 2025 Expert Report (including supporting materials) (hereinafter "Posner Report"), and Prof. Patrick F. Kennedy's August 8, 2025 Expert Report (including supporting materials) (hereinafter "Kennedy Report"), as well as my review of depositions and documents produced both in this litigation and in the ongoing litigation that Arm filed against Qualcomm in Delaware federal court (hereinafter *Arm v. Qualcomm*). I was given access to all material produced in the context of both these litigations.

<sup>&</sup>lt;sup>1</sup> My analysis and conclusions are based on the information available to me at present. I reserve the right to update my opinions and analysis as appropriate if additional information or materials become available. I also reserve the right to create and use demonstrative exhibits to assist in providing testimony.

<sup>&</sup>lt;sup>2</sup> See for example, Qualcomm Inc. v. Arm Holdings, plc., C.A. No. 24-490-MN, Dkt. Nos. 137; 137-1 (Ex. A) (June 3, 2025) (hereinafter Qualcomm's Second Amended Complaint or "SAC"), ¶ 210 ("Qualcomm has suffered harm in California and elsewhere as a supplier of a variety of Arm-compatible products, and it has suffered or faces the threat of loss of profits, customers, and potential customers.").

 $<sup>^{3}</sup>$  SAC, ¶ 207.

<sup>&</sup>lt;sup>4</sup> Expert Report of Eric A. Posner, August 8, 2025 (hereinafter "Posner Report") and Expert Report of Patrick F. Kennedy, August 8, 2025 (hereinafter "Kennedy Report").

<sup>&</sup>lt;sup>5</sup> In *Arm v. Qualcomm*, the jury found that (i) Qualcomm did not breach the Nuvia ALA and (ii) Qualcomm CPUs that include designs acquired in the Nuvia acquisition are licensed under the Qualcomm ALA. The jury was unable to reach a verdict with respect to Arm's claim as to whether Nuvia breached the Nuvia ALA. *See*, Arm Ltd. v. Qualcomm Inc., No. 1:22-cv-01146 (D. Del. filed August 31, 2022), Dkt. Nos. 571, 572. *See also* Tobias Mann, "Jury spares Qualcomm's AI PC ambitions, but Arm eyes a retrial," The Register, December 23, 2024, <a href="https://www.theregister.com/2024/12/23/qualcomm\_arm\_trial/">https://www.theregister.com/2024/12/23/qualcomm\_arm\_trial/</a>;

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 312 of 616 PageID #: 26805

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

9. Counsel for Arm has instructed me to assume that the disagreement with Qualcomm concerning the correct interpretation of various terms of the relevant Qualcomm and Nuvia agreements with Arm, as set forth in the pleadings and other materials from the cases,<sup>6</sup> reflects Arm's genuine views of Arm's, Qualcomm's, and Nuvia's contractual obligations.

#### II. SUMMARY OF OPINIONS

- 10. The origin of this litigation is a dispute over the interpretation of a set of contracts among Arm, Qualcomm, and Nuvia. The dispute was triggered by Qualcomm's acquisition of Nuvia in March 2021, and by Qualcomm's decision to incorporate Nuvia's technology into its own products. Arm has alleged that Qualcomm and Nuvia have breached their license agreements with Arm. In the present case, Qualcomm alleges that Arm has breached the Qualcomm Architecture License Agreement ("ALA"), breached the Qualcomm Technology License Agreement ("TLA"), tortiously interfered with Qualcomm's customers, and engaged in "unlawful, unfair or fraudulent" business acts or practices.<sup>7</sup>
- 11. Qualcomm's unfair competition claims are based upon Arm's conduct after the parties were unable to reach an agreement over the terms of Nuvia's and Qualcomm's license to use Arm's IP. Specifically, Qualcomm alleges that by initiating litigation over Qualcomm's use of the CPU designs created at Nuvia, communicating about the ongoing litigation with Qualcomm customers that use products incorporating Arm's technology, and providing notice that Arm believes Qualcomm has breached the Qualcomm and Nuvia ALAs, Arm intends to "eliminate alternatives to Arm's own competing CPU designs." Prof. Posner's report echoes these claims by arguing that Arm's conduct constitutes a "broad scheme" to foreclose Qualcomm's access to the Arm

<sup>&</sup>lt;sup>6</sup> "Arm's First Supplemental Objections and Responses to Qualcomm's First Set of Interrogatories (Nos. 1–3)," Arm Holdings, July 11, 2025, pp. 4-17; "Arm's First (Corrected) Supplemental Objections and Responses to Qualcomm's First Set of Interrogatories (Nos. 1-11)," Arm Ltd., March 1, 2024, pp. 3-17.

<sup>&</sup>lt;sup>7</sup> SAC, ¶¶ 173-226 (Counts V-VIII).

<sup>&</sup>lt;sup>8</sup> SAC, ¶ 1. In this report, I do not opine on the question of whether either party has violated any contractual commitments.

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 313 of 616 PageID #: 26806

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Instruction Set Architecture ("ISA") and its associated ecosystem of software developers and users.

- 12. To support his opinions, Prof. Posner relies on a stylized economic model of the potential foreclosure effects of a vertical merger. He does not explain why this stylized model of a vertical merger is an appropriate tool for analyzing Arm's downstream *organic entry*, given that economists generally view entry as procompetitive. Even more importantly, Prof. Posner does not link the model or its underlying assumptions to the facts of this case. His analysis simply ignores broad swaths of the factual record that point to a much simpler explanation for Arm's conduct: Arm seeks to protect its IP and earn a return on its investments. For example,
  - Prof. Posner hardly mentions the Nuvia acquisition despite its central role in this dispute. I have seen no evidence that Arm's original lawsuit against Qualcomm and Nuvia was meritless. From an economic perspective, litigation is recognized as a widely accepted means of resolving contractual disputes that can produce a variety of procompetitive benefits.
  - Prof. Posner claims that "Arm has interfered with Qualcomm's relationship with its customers by sowing doubts about Qualcomm's continued ability to sell Arm-compliant chips." But the initial lawsuit between Arm and Qualcomm was public knowledge and widely discussed in the press. In that context, Arm's communication with Qualcomm's customers that use Arm-based chips reflects Arm's incentive to be transparent with users of its technology.
  - Prof. Posner claims that Arm is pivoting to a business model that involves, "foreclos[ing] customers in sectors that Arm seeks to enter."
     10 The only Arm customer that he specifically mentions is Qualcomm. Throughout its dispute with Arm, Qualcomm has maintained access to the Arm ISA under its ALA and TLA contracts.

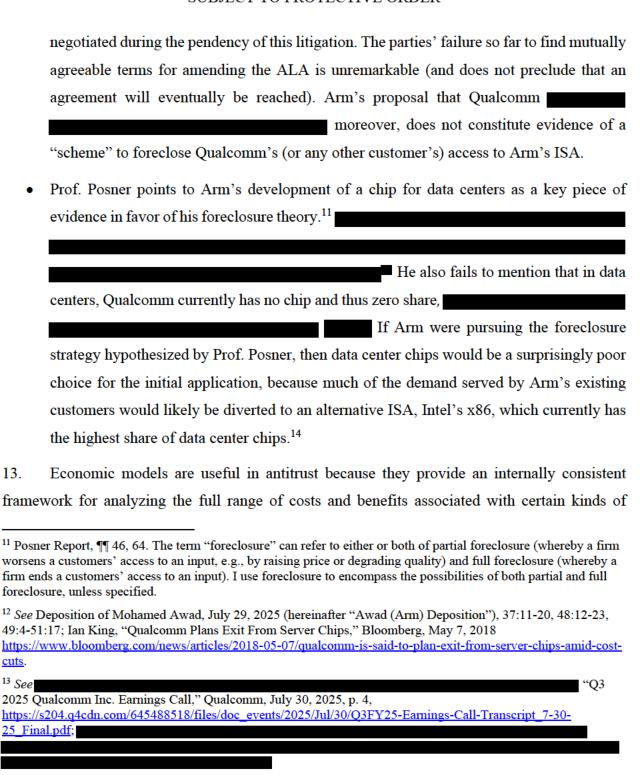
Despite disagreeing about the interpretation of the ALA, Arm and Qualcomm have

<sup>&</sup>lt;sup>9</sup> Posner Report, ¶ 45.

<sup>&</sup>lt;sup>10</sup> Posner Report, ¶ 66.

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 314 of 616 PageID #: 26807

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER



<sup>&</sup>lt;sup>14</sup> Arm estimates that its ISA has a 20 percent share in the data center segment (see Section V).

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 315 of 616 PageID #: 26808

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

business activity. This allows an economist to carefully compare (and measure, where possible) the relevant cost-benefit tradeoffs before reaching a conclusion about antitrust harm. That is not what Prof. Posner does. Instead, he simply claims that certain kinds of harm *might* occur when a firm is vertically integrated, and either ignores or dismisses the potential benefits of vertical integration to reach the conclusion that harm *must* have occurred. Since Prof. Posner's application of a stylized model of potential foreclosure effects under a vertical merger is superficial and untethered from the evidence, his opinions are highly speculative and lack evidentiary support. He alternates between definitive statements and non-committal language—such as "may," "could," "appears to," and "suggests"—in both cases without presenting concrete evidence of harm to Qualcomm or to competition. For example, the following statements are offered without supporting evidence:

- "Arm has adopted the indirect strategy of driving Qualcomm out of business and taking its margins." <sup>16</sup>
- "Arm no longer wishes to keep its prior commitments and instead plans to cut off ALA licensees and sell SoCs directly to OEMs,<sup>17</sup> such as data centers, automobile companies, and mobile phone manufacturers." <sup>18</sup>

<sup>&</sup>lt;sup>15</sup> Stylized models are often used as a starting point by antitrust agencies in merger review. But those agencies also gather facts and adapt the model to account for industry institutions and case-specific evidence. For example, the U.S. Department of Justice & The Federal Trade Commission, Commentary on the Horizontal Merger Guidelines, March 2006, <a href="https://www.justice.gov/d9/383663.pdf">https://www.justice.gov/d9/383663.pdf</a> states: "Investigations Are Intensively Fact-Driven, Iterative Processes. Merger analysis depends heavily on the specific facts of each case. [...] In testing a particular postulated risk of competitive harm arising from a merger, the Agencies take into account pertinent characteristics of the market's competitive process using data, documents, and other information obtained from the parties, their competitors, their customers, databases of various sorts, and academic literature or private industry studies. [...] The Agencies also carefully consider prospects for efficiencies that the proposed transaction may generate and evaluate the effects of any efficiencies on the outcome of the competitive process."

<sup>&</sup>lt;sup>16</sup> Posner Report, ¶ 87.

<sup>&</sup>lt;sup>17</sup> Original Equipment Manufacturers ("OEMs").

<sup>&</sup>lt;sup>18</sup> Posner Report, ¶ 88. I note here that Prof. Posner mischaracterized a statement by Arm's CEO, Rene Haas, as his only support for this claim. As such, Prof. Posner effectively offers no evidence for this claim. *See* Section VIII.B.3 below.

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 316 of 616 PageID #:

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

• "[T]he more successful [Arm licensees] are at designing Arm-compliant chips, the more likely that Arm will try to take their business away from them." 19

And here are several examples of non-committal language:

- "Arm [...] appears to have the incentive to foreclose Qualcomm..."<sup>20</sup>
- "Arm **may** be acting in bad faith..."<sup>21</sup>
- "Arm **might** continue to benefit from Qualcomm..."<sup>22</sup>
- "Arm [...] may raise upstream barriers..."<sup>23</sup>
- "Arm [...] may impede innovation..."<sup>24</sup>
- 14. Prof. Posner's overarching theory is that Arm is (or "may" be) engaged in a "broad [...] scheme" to "undermine Qualcomm's ability" to compete within the Arm ISA ecosystem.<sup>25</sup> He claims that Arm holds "a monopoly or a dominant position as the supplier of the Arm ISA to companies that design and manufacture CPUs for Systems-on-a-Chip (SoCs) that are compatible with the Arm ISA."<sup>26</sup> He alleges that Arm is attempting to "extend [...] its dominance over the Arm ISA ecosystem"<sup>27</sup> by "obstructing" Qualcomm's ability to design custom cores under its ALA, thereby coercing Qualcomm into relying on Arm's "off-the-shelf" ("OTS") cores licensed under the TLA,<sup>28</sup>

<sup>&</sup>lt;sup>19</sup> Posner Report, ¶ 90.

<sup>&</sup>lt;sup>20</sup> Posner Report, ¶ 64 (emphasis added).

<sup>&</sup>lt;sup>21</sup> Posner Report, ¶ 65 (emphasis added).

<sup>&</sup>lt;sup>22</sup> Posner Report, ¶ 72 (emphasis added).

<sup>&</sup>lt;sup>23</sup> Posner Report, ¶ 78 (emphasis added).

<sup>&</sup>lt;sup>24</sup> Posner Report, ¶ 77 (emphasis added).

<sup>&</sup>lt;sup>25</sup> Posner Report, ¶ 13.

<sup>&</sup>lt;sup>26</sup> Posner Report, ¶ 11.

<sup>&</sup>lt;sup>27</sup> Posner Report, ¶ 14.

<sup>&</sup>lt;sup>28</sup> Posner Report, ¶ 13.

<sup>&</sup>lt;sup>29</sup> Posner Report, ¶¶ 17, 71.

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 317 of 616 PageID #: 26810

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

15. This report provides a response to each of Prof. Posner's main claims. The remainder of this Section summarizes my opinions regarding the core elements of his theory.

## Prof. Posner's analysis of relevant markets and market power is incomplete and ignores key features of the industry.

- 16. Although Prof. Posner does not define relevant markets for his analysis, he implicitly assumes that Arm is a monopolist or has a "dominant position" in the market for a license to its own ISA.<sup>30</sup> Prof. Posner does not appear to define markets or analyze competition at other stages of the chip industry supply chain, such as central processing unit ("CPU") cores or chips.<sup>31</sup>
- 17. This approach leads him to ignore (i) the current and future competitive constraint from the RISC-V ISA, a freely-available alternative; (ii) the fact that, if Qualcomm were foreclosed, Qualcomm's sales may divert to other ALA customers, such as Apple, rather than Arm cores sold under the TLA or Arm's own chips; and (iii) competitive constraints due to Original Equipment Manufacturer ("OEM") customers being able to choose among chips that use different ISAs.<sup>32</sup>
- 18. While Prof. Posner discusses Arm's "monopoly" and "dominant position," economics does not condemn either, to the extent that they are the result of successful competition and innovation.<sup>33</sup> Furthermore, Prof. Posner does not consider that current high shares do not guarantee future high shares, as demonstrated by the many examples of once "dominant" firms that lost significant shares

<sup>&</sup>lt;sup>30</sup> Posner Report, ¶ 11 ("[...] Arm has a monopoly or a dominant position as the supplier of the Arm ISA to companies that design and manufacture CPUs for Systems-on-a-Chip (SoCs) that are compatible with the Arm ISA.").

<sup>&</sup>lt;sup>31</sup> For the purpose of my report, I consider the terms "chips," "System on a Chip" ("SoCs"), and "chipsets" to be synonymous. I will typically use the term "chip."

<sup>&</sup>lt;sup>32</sup> Prof. Posner does acknowledge that "in some sectors, like data centers and compute, OEMs can still choose between using Intel chips under the x86 ISA and Arm-compliant chips." Posner Report, ¶ 58. However, he does not account for this competitive constraint on Arm's licensing strategy.

<sup>&</sup>lt;sup>33</sup> Shapiro, Carl, "Competition and the Small Business Landscape: Fair Competition and a Level Playing Field," Opening Statement of Professor Carl Shapiro House Committee on Small Business March 1, 2022, <a href="https://www.congress.gov/117/meeting/house/114436/witnesses/HHRG-117-SM00-Wstate-ShapiroC-20220301.pdf">https://www.congress.gov/117/meeting/house/114436/witnesses/HHRG-117-SM00-Wstate-ShapiroC-20220301.pdf</a>, p. 2 ("In many markets, the competitive process naturally results in a market structure with lots of suppliers. [...] In many other markets, where economies of scale are sizeable, the competitive process naturally results in a market structure with just a few large firms. We typically see this outcome in the manufacturing of highly sophisticated equipment, from aircraft to farm machinery to advanced microprocessors. There is nothing inherently wrong with that outcome, so long as it results from legitimate competition rather than anticompetitive mergers or exclusionary conduct.").

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 318 of 616 PageID #: 26811

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

to rivals.<sup>34</sup> Prof. Posner fails to explain why, as a "monopolist" protected by high "barriers to entry," Arm would continue to invest a significant portion of its revenue in research and development ("R&D"), and does not consider that Arm's sustained investment is more consistent with a firm responding to competitive pressure than with one exercising unchecked market power.

## Prof. Posner and Dr. Kennedy provide no evidence that Qualcomm has suffered harm from Arm's alleged anticompetitive conduct.

- 19. Prof. Posner claims that Qualcomm was harmed in various ways by Arm's conduct, but he provides no evidence of actual harm. I show that there is no real-world compelling evidence of harm to Qualcomm. Since its acquisition of Nuvia, in March 2021, Qualcomm's financial reports, statements to investors, and customer relationships show sustained growth and strong financial performance. Qualcomm also forecasts strong financial performance going forward.
- 20. Neither Prof. Posner nor Dr. Kennedy demonstrate that Qualcomm suffered any harm in its relationship with specific customers. Specifically, neither Qualcomm nor its experts provide any evidence that the letter that Arm sent to Qualcomm on October 22, 2024, (hereinafter "Breach Letter") (which Arm withdrew on January 8, 2025) is the only factor, or even just a contributing factor, <sup>36</sup> for the change in the terms of a Qualcomm agreement with Negotiations, particularly between parties of that scale and sophistication, are a sequence of give and take, and there is nothing remarkable about the fact that Qualcomm did not ultimately receive the exact terms it proposed at an earlier stage in the process.
- 21. More generally, negotiations between business partners involve constant back-and-forth communications, exchanges of requests and concessions, expected and unexpected challenges and roadblocks, and can be affected by internal frictions and changing external factors. The presence of "rough patches" in a relationship is not evidence of anticompetitive conduct. In fact,

<sup>&</sup>lt;sup>34</sup> See Section VIII.D. For example, Arm estimates that Arm-based chips' share of data centers is currently 20 percent (see Section V), but it was essentially zero in 2018 (Awad (Arm) Deposition, 48-12:2).

<sup>&</sup>lt;sup>35</sup> Posner Report, ¶¶ 18, 58.

<sup>&</sup>lt;sup>36</sup> As I discuss in Section IX.B, Prof. Posner has also not explained how Arm's October 2024 notice and its publication could interfere with Qualcomm's business opportunities given that, as early as 2022, Arm repeatedly, clearly, and publicly stated that (a) Qualcomm was in breach of the Qualcomm ALA and (b) Arm had the right to terminate the ALA as a result.

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 319 of 616 PageID #: 26812

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

it is not difficult to find examples of friction in Qualcomm's relationships with its customers that predate the filing of the *Arm v. Qualcomm* lawsuit, and that are thus unrelated to Arm's alleged anticompetitive conduct.

Prof. Posner's claim that Arm has the ability and incentive to foreclose Qualcomm is based on an incomplete analysis that ignores key facts and is untethered from sound economic analysis.

- 22. Prof. Posner's claim that Arm is able to foreclose Qualcomm and other customers from Arm's ISA is incorrect.<sup>37</sup> First, his analysis does not distinguish among downstream sectors, even though the RISC-V architecture is currently a substitute in some applications, and OEMs can (and do) readily switch to x86 in others. Second, Qualcomm's ALA and TLA with Arm do not expire until and many of Arm's other customers similarly have contractual commitments that extend many years into the future.<sup>38</sup> These long-term commitments provide time for chipmakers to invest in alternatives to the Arm ISA, thereby constraining Arm's ability to foreclose even in sectors like mobile where short-run substitutes to Arm's ISA are not currently available.
- 23. Prof. Posner also claims that Arm has the incentive to foreclose Qualcomm's access to its ISA.<sup>39</sup> But his analysis is incomplete, and it is based on a static model that ignores various costs that Arm would incur if it pursued such a foreclosure strategy. *First*, foreclosure would deprive Arm of the benefits of Qualcomm's and other ALA customers' investments in Arm-based chip design, which increase the value of Arm's ecosystem. *Second*, Arm would lose sales in downstream applications where chipmakers or OEMs can switch to an alternative ISA. *Third*, a "broad scheme" of foreclosure would carry reputational costs to Arm, and cause harm to the Arm ecosystem, by making it more difficult to migrate existing customers onto future versions of the Arm ISA. *Fourth*, industry leaders would respond to Arm's purported foreclosure scheme by accelerating investments in the development of the freely-available RISC-V ISA, thereby putting

<sup>&</sup>lt;sup>37</sup> Posner Report, ¶¶ 65-66.

<sup>&</sup>lt;sup>38</sup> For example, Apple has an ALA with Arm that "extends beyond 2040." *See* "Amendment No. 2 to Form F-1," Arm Holdings plc, September 5, 2023, p. 4, <a href="https://www.sec.gov/Archives/edgar/data/1973239/000119312523228059/d393891dfla.htm">https://www.sec.gov/Archives/edgar/data/1973239/000119312523228059/d393891dfla.htm</a>. *See also* ARM 00119603 (a list of agreements as of 2021).

<sup>&</sup>lt;sup>39</sup> Posner Report, ¶¶ 72, 74.

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 320 of 616 PageID #: 26813

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Arm's entire business at risk. As a matter of economics, these are real costs that Arm would bear if it foreclosed its customers and thus should be accounted for in an analysis of Arm's incentives to foreclose. By ignoring or downplaying these real costs, Prof. Posner systematically overstates Arm's incentive to engage in the foreclosure strategy that he hypothesizes.

#### Prof. Posner has not demonstrated that Arm's conduct is anticompetitive.

24. Even in the context of Prof. Posner's stylized theoretical vertical merger model (i.e., a model of an upstream firm entering into downstream markets through acquisition of another firm already operating in those markets), a vertical merger does not *necessarily* lead to higher costs for downstream rivals. Importantly, his model does not capture Arm's *organic entry* approach (i.e., *de novo* entry by designing its own chips). His analysis either ignores or dismisses the procompetitive effects of vertical integration (where a firm is present at multiple levels of the supply chain). Those benefits include the elimination of "double marginalization" (when an OEM passes the suppliers' markup on to its own customers) and implementation experience that helps a supplier learn how to improve its products. In the process of the supplier learn how to improve its products.

<sup>&</sup>lt;sup>40</sup> As one recent paper concludes, "Vertical mergers may also allow a firm to engage in anticompetitive conduct, like raising rivals' costs ('RRC'), complete foreclosure, or misuse of information. Yet RRC and EDM [Elimination of Double Marginalization] are both inherent, unilateral competitive effects-two sides of the same coin-even if they do not necessarily share equal magnitude. As a result, the economic literature finds that a vertical merger's aggregate procompetitive benefits are likely to exceed its anticompetitive effects across a wide range of-but not all possible scenarios." Blair, Roger D., Christine S. Wilson, D. Daniel Sokol, Keith Klovers and Jeremy A. Sandford, "Analyzing Vertical Mergers: Accounting for the Unilateral Effects Tradeoff and Thinking Holistically About Efficiencies," George Mason Law Review, 2020, Vol. 27, No. 3, p. 762. *See also* Lu, Shihua, Serge Moresi, and Steven C. Salop, "A Note on Vertical Mergers with an Upstream Monopolist: Foreclosure and Welfare Effects," 2007, Working Paper and De Stefano, Martino and Michael Salinger, "The Complicated Simple Economics of Vertical Mergers," The Journal of Law and Economics, 2025, Vol. 68, No. 1.

<sup>&</sup>lt;sup>41</sup> See, for example, "Qualcomm Incorporated 2009 and Qualcomm Incorporated 2011 Update," Harvard Business School Teaching Notes, May 25, 2011, <a href="https://hbsp.harvard.edu/product/711463-PDF-ENG">https://hbsp.harvard.edu/product/711463-PDF-ENG</a> ("Qualcomm has been willing to move downstream into end product in order to demonstrate proof of concept. While other IP firms only do technology (which sometimes creates problem in implementation, such as Rambus), Qualcomm repeatedly created end-user products and systems to show that the technology could really work."); Tom Simonite, "With Its Own Chips, Apple Aims to Define the Future of PCs," Wired, November 10, 2020, <a href="https://www.wired.com/story/own-chips-apple-aims-define-future-pcs/">https://www.wired.com/story/own-chips-apple-aims-define-future-pcs/</a> ("Making its own mobile processors has helped Apple innovate with such features as facial recognition and augmented reality on the iPhone. Designing its own chips for devices like the MacBooks and Mac Mini announced Tuesday should also allow Apple to be more creative with PCs. [...] When chip, device, and software engineers work closely together they can squeeze more performance out of a device than is possible with an off-the-shelf chip.").

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 321 of 616 PageID #: 26814

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

- 25. Prof. Posner also *assumes* that Arm's conduct is motivated by incentives to raise Qualcomm's input costs and divert sales to Arm, while ignoring more plausible alternative explanations. For example, Prof. Posner says almost nothing about the Nuvia acquisition and Arm's belief that Qualcomm breached the terms of that license. He does not consider any procompetitive benefits of Arm's efforts to exercise its contractual rights, or the possibility that Arm might seek to increase royalty rates to earn a return on its R&D investments, fund additional R&D investments, or simply respond to increased demand.<sup>42</sup>
- 26. Prof. Posner provides no evidence that Arm's royalty adjustments are not simply a result of competitive dynamics in an industry where R&D investments are costly and necessary to a firm's ability to compete. As a general matter of economics, price increases are common in business and not inherently anticompetitive. Even in perfectly competitive markets, prices change when supply and demand conditions change. In fact, price increases can be procompetitive—particularly in high-tech industries—as they can lead to increased R&D investment and reward innovation. Such investment can enable a firm to improve existing products (such as Arm improving its ISA from v8 to v9), bring innovative products to market (such as Arm's successful launch of its compute subsystem ("CSS") offerings), or expand into new markets (such as Arm's recent organic entry into data center chip design). When a firm successfully innovates, raising prices to reflect the value of its improved technology is not anticompetitive but a standard commercial response.
- 27. For evidence of incentives, Prof. Posner points to Arm's recent entry into data center chip design, which he argues is an indication that Arm is actively seeking to compete directly with its licensees, including Qualcomm.<sup>43</sup> It is unusual and economically counter-intuitive to claim that a firm's organic entry into a related market is evidence of anti-competitive conduct. Moreover, in this case, Arm entered at (i.e., at a customer's behest), and only after Qualcomm abandoned its own effort to produce an Arm-based chip for that application. Despite Qualcomm and Prof. Posner's assertion of a "broad campaign" to harm Qualcomm, Prof. Posner points to no

<sup>&</sup>lt;sup>42</sup> I also discuss in Section VIII.C.1 that a comparison of Arm's and Qualcomm's royalty revenues highlights that Arm's share of the chip "stack" is smaller than Qualcomm's.

<sup>&</sup>lt;sup>43</sup> Posner Report, ¶¶ 13-14.

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 322 of 616 PageID #: 26815

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

evidence that Arm has plans to enter the smartphone and personal computer ("PC") segments , nor am I aware of any. 44

28. Finally, Prof. Posner opines that Arm's actions "may" impede the development of alternative ISAs, such as RISC-V. 45 He claims that if Arm "weakens" the firms that would otherwise support such alternatives, 46 new ISAs "will have trouble attracting chipmakers and thus face greater barriers to entry." This claim seems to reflect the idea that, even if foreclosure increases incentives for Arm's customers to invest in other ISAs (as the evidence I review in Section VIII.D.3 shows), they would have fewer financial resources to make those investments. Without measuring either effect, however, Prof. Posner can only speculate that the financial costs of foreclosure would outweigh the increased incentives to invest in other ISAs. In reality, many of Arm's customers

(a) are huge enterprises with vast financial reserves and easy access to credit markets, which undermines the idea that they could not afford to invest in alternative ISAs.

Prof. Posner's claim that Arm pivoted from a longstanding "open" and "neutral" business model "to a different model" in which it forecloses its customers is incorrect.

29. Prof. Posner claims Qualcomm and others invested in Arm's ecosystem because they trusted that Arm would remain "open" and "neutral." He further asserts that Arm entering into chip design represents a "dramatic departure" from Arm's historically neutral licensing model. Prof. Posner's claims that Arm's large and sophisticated customers rely on a vague promise of openness or neutrality are belied by the fact that their heavily negotiated ALA and TLA licenses provide long-term contractual guarantees of access to the Arm ISA and related Arm chip designs.

Qualcomm's Handsets revenue (\$24.9 billion) is 75% of QCT revenue (\$33.2 billion) and 63.8% of total revenue (\$39.0 billion) in fiscal 2024. Qualcomm Incorporated, Form 10-K, for the fiscal year ended September 29, 2024, <a href="https://dl8rn0p25nwr6d.cloudfront.net/CIK-0000804328/fd08c4f6-61ba-4a6a-a339-0e3b522ed739.pdf">https://dl8rn0p25nwr6d.cloudfront.net/CIK-0000804328/fd08c4f6-61ba-4a6a-a339-0e3b522ed739.pdf</a> (hereinafter, "Qualcomm 2024 Form 10-K"), pp. 41, 44.

<sup>&</sup>lt;sup>45</sup> Posner Report, ¶ 18.

<sup>&</sup>lt;sup>46</sup> Posner Report, ¶ 18.

<sup>&</sup>lt;sup>47</sup> Posner Report, ¶ 18.

<sup>&</sup>lt;sup>48</sup> Posner Report, ¶ 66.

<sup>&</sup>lt;sup>49</sup> Posner Report, ¶¶ 19, 66, 86.

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 323 of 616 PageID #: 26816

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

- 30. I have seen no evidence of a "dramatic" change in Arm's business model. Arm has always been careful about the customers to whom it will grant an ALA (to ensure the growth of the Arm ecosystem and the success of both Arm and its customers); but it has recently signed an ALA with Nuvia in 2019, and since then with large, sophisticated customers such as Apple, IBM, and Google. For over a decade, Arm has also licensed core designs via TLAs to customers such as Qualcomm, and Prof. Posner makes no claims that Arm's TLA licensing practices are inherently anticompetitive. Thus, Arm was operating at multiple levels of the chip supply chain—by granting licenses to implement its ISA while also selling its own cores—well before the Nuvia acquisition and the start of its litigation with Qualcomm.
- 31. Entry into chip design for data centers is simply an example of organic vertical expansion, which is an extremely common business strategy that does not necessarily represent evidence of attempted foreclosure or a "dramatic departure" from Arm's existing practices. Prof. Posner's use of a stylized theoretical model of vertical interaction, untethered from the facts in this case, could be used to show that any vertical expansion by a firm with market power at some stage in a supply chain (including through organic entry) must inherently be anticompetitive. That conclusion contradicts a large body of economic literature, as well as the established practice of accounting for the economic efficiencies of vertical integration in antitrust analysis.<sup>50</sup>
- 32. Arm's entry into chip design for data centers is not surprising given (i) its long history of designing cores and other IP that is incorporated into chips, (ii) the Arm ISA's relatively small share of the rapidly growing data center segment, and (iii) request that Arm develop a chip.

<sup>&</sup>lt;sup>50</sup> See for example, Beck, Marissa and Fiona Scott Morton, "Evaluating the Evidence on Vertical Mergers," Review of Industrial Organization, 2021, Vol. 59 ("In theory, vertical mergers can have both procompetitive and anticompetitive effects. [...] Overall, we find that the existing literature on vertical integration contains mixed results, with evidence of harm to competition as well as evidence of procompetitive effects.") The potential procompetitive benefit of vertical mergers is reflected in recent Court decisions. See, for example, Federal Trade Commission v. Tempur Sealy International and Mattress Firm Group Inc., U.S. District Court, Southern District of Texas, Civil Action No. 4:24-cv-02508, Opinion and Order Denying Motion for Preliminary Injunction, Case 4:24-cv-02508, Dkt. Entry 511 (S.D. Tex. Jan. 31, 2025) ("The merger's effect here (like most vertical mergers) is instead likely to be either neutral or procompetitive, with the cumulative effect of certain remedial commitments attendant to the merger reasonably addressing any lingering concerns. [...] [T]he inquiry must proceed with recognition that 'academics, courts, and antitrust enforcement authorities alike' have repeatedly recognized that vertical mergers may serve to benefit competition and consumers.").

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 324 of 616 PageID #: 26817

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

## Prof. Posner has not demonstrated that Arm's conduct has harmed competition and consumers.

33. Prof. Posner provides no real-world evidence that Qualcomm was harmed by Arm's alleged anticompetitive conduct. Even if it were true that Arm's conduct harmed Qualcomm, Prof. Posner does not demonstrate, or even attempt to demonstrate, that the conduct harmed competition and the competitive process. Economists, as well as U.S. antitrust laws, are concerned with "the protection of competition, not competitors." Ultimately, Prof. Posner's claims that Arm has harmed competition or consumers rest on a flawed analysis that is unsubstantiated and inconsistent with the evidence as well as untethered from any standard economic analysis of harm to competition. Arm's decision to make substantial engineering investments that allow it to operate at stages of the value chain beyond the supply of its ISA—either via improved cores or CSSs or through selling chips—are best understood as procompetitive business strategy that will stimulate competition and innovation in a highly dynamic industry.

#### III. BACKGROUND AND INDUSTRY OVERVIEW

34. This Section provides an overview of relevant semiconductor technologies and associated value chain, and it summarizes competitive dynamics across key segments, including smartphones, personal computers, data centers, automotives, and Internet of Things ("IoT"). I also describe Arm's and Qualcomm's business models, focusing on their licensing frameworks and strategic roles within the ecosystem. These elements establish the foundation for assessing the parties' incentives and the economic implications of the dispute.

<sup>&</sup>lt;sup>51</sup> See Brunswick Corp. v. Pueblo Bowl-O-Mat, Inc., 429 U.S. 477, 488 (1977). (The Supreme Court stating: "The antitrust laws, however, were enacted for 'the protection of competition, not competitors."). See also Shapiro, Carl, "Competition and the Small Business Landscape: Fair Competition and a Level Playing Field," Opening Statement of Professor Carl Shapiro House Committee on Small Business March 1, 2022,

https://www.congress.gov/117/meeting/house/114436/witnesses/HHRG-117-SM00-Wstate-ShapiroC-20220301.pdf, p. 2 ("Competition is messy. Competition can be rough-and-tumble. Competition can feel deeply unfair when one loses. [...] Promoting competition does not mean shielding any businesses from the buffeting winds of legitimate competition, be they large firms with outsize political influence or small firms that are struggling to compete against larger rivals with lower costs. As a champion of competition, I am instinctively skeptical of pleas by politically powerful businesses to be shielded from competition.").

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 325 of 616 PageID #: 26818

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

#### A. Overview of Semiconductor Technology and Value Chain

- 35. Semiconductor "chips" are highly engineered components that power a wide range of digital devices, including smartphones, personal computers, data centers, automotives and IoT.<sup>52</sup> The global semiconductor industry generated approximately \$655 billion in revenue in 2024—a 21% increase from the prior year—reflecting its central role in modern technology.<sup>53</sup> The largest suppliers of chips include Qualcomm, Samsung, Intel, Broadcom, NVIDIA, Micron, AMD, and MediaTek.<sup>54</sup>
- 36. Chips are typically customized to suit the needs of various applications. For instance, efficient power consumption may be an important product characteristic in mobile, whereas performance and flexibility are more important in data centers, where the ability to perform large number of calculations in parallel is essential for training artificial intelligence ("AI") models.<sup>55</sup> These differing requirements influence chip design choices and the competitive landscape across application segments.
- 37. Each chip contains multiple functioning units, including CPUs, graphics processing units ("GPUs"), and peripherals. <sup>56</sup> This case is primarily concerned with CPUs, which are the "computer's brain [that] handles the assignment and processing of tasks and manages operational

<sup>&</sup>lt;sup>52</sup> In Qualcomm's documents, "data centers," "servers," and "infrastructure" appear to be used interchangeably.

<sup>&</sup>lt;sup>53</sup> "Gartner Says Worldwide Semiconductor Revenue Grew 21% in 2024," Gartner, April 10, 2025, <a href="https://www.gartner.com/en/newsroom/press-releases/2025-04-10-gartner-says-worldwide-semiconductor-revenue-grew-21-percent-in-2024">https://www.gartner.com/en/newsroom/press-releases/2025-04-10-gartner-says-worldwide-semiconductor-revenue-grew-21-percent-in-2024</a>.

<sup>&</sup>lt;sup>54</sup> *Ibid*.

<sup>&</sup>lt;sup>55</sup> Nikita Kumari, "From Idea to Silicon: How Custom Chip Design Drives Innovation," BISinfotech, July 16, 2025 <a href="https://www.bisinfotech.com/from-idea-to-silicon-how-custom-chip-design-drives-innovation">https://www.bisinfotech.com/from-idea-to-silicon-how-custom-chip-design-drives-innovation</a>. See also, "AI Accelerator Chips Overview and Comparison," HardwareBee, <a href="https://hardwarebee.com/ai-accelerator-chips-overview-and-comparison/">https://hardwarebee.com/ai-accelerator-chips-overview-and-comparison/</a>, accessed August 22, 2025.

<sup>&</sup>lt;sup>56</sup> Briana Watson, "SOC vs CPU: Breaking Down the Differences and their Optimal Usage," November 15, 2023, <a href="https://www.totalphase.com/blog/2023/11/soc-vs-cpu-breaking-down-the-differences-and-their-optimal-usage/">https://www.totalphase.com/blog/2023/11/soc-vs-cpu-breaking-down-the-differences-and-their-optimal-usage/</a>. See also "Glossary," Lenovo, <a href="https://www.lenovo.com/us/en/glossary/what-is-a-chipset">https://www.lenovo.com/us/en/glossary/what-is-a-chipset</a>, accessed September 3, 2025 ("A chipset is a set of integrated circuits that work together to manage data flow between the processor, memory, and other components in the computer. It serves as the motherboard's 'traffic cop,' controlling how each component interacts and sending signals back and forth to manage operations. Chipsets handle data differently depending on its type. Whether it's audio or video, Internet protocol [...] packets or system-level tasks.").

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 326 of 616 PageID #: 26819

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

functions that all types of computers use."<sup>57</sup> Every CPU is built to follow a specific ISA, "which defines the software instructions that can be executed by the CPU. […] The ISA sets the foundation for a large library of compatible software which runs on those CPUs."<sup>58</sup>

- 38. There are a few commercially deployed ISAs—the Arm ISA, the Intel x86 ISA, and the RISC-V ISA. Because software written for CPUs based on one of these ISAs is not compatible with CPUs based on a different ISA, each ISA has its own "ecosystem," i.e., the network of compatible software, hardware, developers, and users.
- 39. Chips are complex products that incorporate significant IP, reflecting years of R&D investments conducted by many innovative companies, including Arm and Qualcomm, as well as institutions such as universities and government research labs.<sup>59</sup> Many companies specialize in specific stages of the production process—such as design, manufacturing, or systems integration—depending on their capabilities and strategic focus.<sup>60</sup>

<sup>&</sup>lt;sup>57</sup> Phill Powell, "Types of central processing units (CPUs)," <a href="https://www.ibm.com/think/topics/central-processing-unit-types">https://www.ibm.com/think/topics/central-processing-unit-types</a>. See also "Glossary," Lenovo, <a href="https://www.lenovo.com/us/en/glossary/what-is-a-chipset">https://www.lenovo.com/us/en/glossary/what-is-a-chipset</a>, accessed September 4, 2025 ("What is the difference between a Chipset and a processor? A chipset serves as a bridge between the processor, memory, and peripheral devices, while a processor is responsible for executing instructions and performing calculations. Think of the chipset as the traffic controller that manages the flow of data, while the processor is the worker that actually performs the tasks. The chipset plays a crucial role in the communication between the various components of a computer and is responsible for ensuring that data is transferred accurately and efficiently.").

<sup>&</sup>lt;sup>58</sup> Arm Holdings plc, Form 20-F, for the fiscal year ended March 31, 2025, <a href="https://investors.arm.com/static-files/9be77c9d-75ee-4639-bfe4-17efd23c56b5">https://investors.arm.com/static-files/9be77c9d-75ee-4639-bfe4-17efd23c56b5</a> (hereinafter, "Arm 2025 Form 20-F"), p. 56.

<sup>&</sup>lt;sup>59</sup> Semiconductor Industry Association, "2022 State of the U.S. Semiconductor Industry," November 2022, p. 9, <a href="https://www.semiconductors.org/wp-content/uploads/2022/11/SIA\_State-of-Industry-Report\_Nov-2022.pdf">https://www.semiconductors.org/wp-content/uploads/2022/11/SIA\_State-of-Industry-Report\_Nov-2022.pdf</a> ("Chip design is a complex process requiring highly trained engineers and scientists, advanced technology, and intellectual property to create the designs for the performance and functionality of the chip"); Jeffrey Mervis, "To beat China, new U.S. law offers billions for microchip research and training," Science, September 6, 2022, <a href="https://www.science.org/content/article/beat-china-new-u-s-law-offers-billions-microchip-research-and-training">https://www.science.org/content/article/beat-china-new-u-s-law-offers-billions-microchip-research-and-training.</code>

<sup>&</sup>lt;sup>60</sup> Semiconductor Industry Association, "2022 State of the U.S. Semiconductor Industry," November 2022, p. 9, <a href="https://www.semiconductors.org/wp-content/uploads/2022/11/SIA\_State-of-Industry-Report\_Nov-2022.pdf">https://www.semiconductors.org/wp-content/uploads/2022/11/SIA\_State-of-Industry-Report\_Nov-2022.pdf</a>
("[Fabless companies] companies focus exclusively on chip design, and partner with third-party merchant foundries to fabricate (that is, manufacture) their chips. [Integrated device manufacturers] both design and manufacture chips. Within IDMs, design and manufacturing teams work together to bring to market new chips usually at in-house fabrication facilities, or "fabs." [Original equipment manufacturers] like auto makers, use semiconductors as inputs for other products. Some OEMs have begun to design their own chips, primarily for their own products. [EDA/IP providers] are trusted intermediaries between design companies and foundries providing design tools, reference flows and some services. Third party IP providers design and license IP building blocks (processors, libraries, memories, interfaces, sensors, and security).").

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 327 of 616 PageID #: 26820

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

- 40. The semiconductor value chain consists of four key steps:
  - *ISA Development:* Arm develops and licenses its ISA to select partners through an ALA. The RISC-V ISA is an open-source alternative to the Arm ISA.<sup>61</sup> Intel and AMD sell chips that use Intel's proprietary x86 ISA.<sup>62</sup>
  - Core Design: Arm and other firms design CPU cores that are compliant with a particular ISA. 63 A core is a re-usable component (or "building block") that can be incorporated into more complex and specialized chip designs. 64 Arm uses TLAs to provide customers with access to OTS cores, such as 65 Arm's ALA partners can choose to purchase an Arm OTS core or develop their own custom cores. 66 Firms can also choose to develop custom cores using the RISC-V ISA. 67

For more details, see "Arm CPU Architecture: A Foundation for Computing Everywhere," Arm, <a href="https://www.arm.com/architecture/cpu">https://www.arm.com/architecture/cpu</a>, accessed September 4, 2025.

clearly has amazing potential. For a product developer, it eliminates the issue of being tied to the limited portfolio of

<sup>&</sup>lt;sup>61</sup> "About RISC-V," RISC-V International, <a href="https://riscv.org/about/">https://riscv.org/about/</a>, accessed August 15, 2025 ("At the base level, the RISC-V ISA and extensions ratified by RISC-V International are royalty free and open base building blocks for anyone to build their own solutions and services on.").

<sup>&</sup>lt;sup>62</sup> On the difference between the Arm and x86 ISAs, see Robert Triggs, "Arm vs x86: Instruction sets, architecture, and all key differences explained," Android Authority, December 20, 2023, <a href="https://www.androidauthority.com/arm-vs-x86-key-differences-explained-568718/">https://www.androidauthority.com/arm-vs-x86-key-differences-explained-568718/</a>. Intel licenses x86 to AMD as the result of a settlement agreement. See "Intel Antitrust Rulings," <a href="https://www.amd.com/en/legal/notices/antitrust-ruling.html">https://www.amd.com/en/legal/notices/antitrust-ruling.html</a>, accessed September 4, 2025.

<sup>&</sup>lt;sup>63</sup> A CPU core is the "processing unit within the CPU that can execute instructions." A CPU can contain multiple cores and "the more cores a CPU has, the more tasks it can handle simultaneously. *See* "Glossary," Lenovo, <a href="https://www.lenovo.com/us/en/glossary/cpu-core/">https://www.lenovo.com/us/en/glossary/cpu-core/</a>, accessed September 4, 2025.

<sup>&</sup>lt;sup>64</sup> "What are IP Cores in Semiconductor Design: Types & Advantages," Techovedas, April 21, 2024, <a href="https://techovedas.com/what-are-ip-cores-in-semiconductor-design-types-advantages/">https://techovedas.com/what-are-ip-cores-in-semiconductor-design-types-advantages/</a> ("In semiconductor design, an IP core, short for Intellectual Property core, is a pre-designed and reusable block of logic or functionality that serves as a building block for creating complex chips.").

<sup>&</sup>lt;sup>65</sup> Paul Williamson, Arm's Senior VP and general manager of IoT, explained that "our processes [Arm's CPU cores] come in three families or our process architectures: A class, R class and M class. [...] M is typically for deeply embedded low power. This is at the high level. R is for real time control system, time critical systems. And A is for advanced application processes, typically."

<sup>67 &</sup>quot;What is RISC-V, and why we're unlocking its potential," Qualcomm, September 8, 2023, <a href="https://www.qualcomm.com/news/onq/2023/09/what-is-risc-v-and-why-were-unlocking-its-potential">https://www.qualcomm.com/news/onq/2023/09/what-is-risc-v-and-why-were-unlocking-its-potential</a> (reporting Ziad Asghar, Senior Vice President & General Manager - XR & Spatial Computing at Qualcomm, stating that "RISC-V"

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 328 of 616 PageID #: 26821

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

- Subsystem Integration: Arm also offers CSS, which combine multiple cores—such as Arm's CPU and GPU cores—with other technologies to serve as the computing component of a larger chip.<sup>68</sup> These subsystems can help chip designers reduce development costs and shorten time-to-market.<sup>69</sup>
- Chip Design and Manufacturing: Chip designers can combine Arm's OTS cores, their own customized cores, or pre-integrated CSS with other technologies to design full chips, which are then produced by semiconductor fabrication plants (also known as "foundries" or "fabs"). These chips are ultimately embedded in end products like smartphones, laptops, vehicles, and data center servers.

#### **B.** Segments and Competitive Dynamics

41. The semiconductor industry spans a diverse set of application segments, each with distinct performance, power, and integration requirements. These differences shape the design and

cores available from a proprietary ISA [...] OEMs want to develop highly customized cores. And RISC-V really fits that bill [...] RISC-V makes sense for pretty much all use cases, because instead of having to choose from a given fixed number of processor cores, it allows you to optimize for specific use cases. This ability to customize the cores for what you need means the cores can be optimized for what you care most about whether that be power, performance, or area.").

<sup>&</sup>lt;sup>68</sup> For more details, see "Fastest Path to Production Silicon with World-Leading Performance, on Leading-Edge Technology," Arm, <a href="https://www.arm.com/products/neoverse-compute-subsystems">https://www.arm.com/products/neoverse-compute-subsystems</a>, accessed September 4, 2025. See also Deposition of Peter Greenhalgh, July 4, 2025 (hereinafter "Greenhalgh (Arm) Deposition"), 73:2-11 ("So the way we think of compute subsystems is not perfectly defined. There's not like only one way that they get created. But they're a combination of our own CPU, GPU, if it's relevant for that market, interconnect, other pieces of IP that are being brought together and proven to achieve a certain capability. So that's a compute subsystem.").

<sup>&</sup>lt;sup>69</sup> Arm 2025 Form 20-F, p. 59, ("Compute Platform Products. Arm's CPU, GPU, and System IP products integrated into a foundational compute platform optimized for a specific end market. These CSSs are pre-integrated and preverified configurations of Arm technology that deliver significantly higher value to customers by reducing development costs and time-to-market.").

<sup>&</sup>lt;sup>70</sup> Chip manufacturing is a complex and highly specialized process conducted at semiconductor fabrication plants, also called foundries or fabs. "Top 10 Semiconductor Foundries in the World," Cytech Systems, March 13, 2024 <a href="https://www.cytechsystems.com/news/top-10-semiconductor-foundries">https://www.cytechsystems.com/news/top-10-semiconductor-foundries</a>. The world's largest semiconductor foundry is Taiwan Semiconductor Manufacturing Company ("TSMC"), with a share well in excess of 50%. Other large semiconductor foundries are Samsung, Semiconductor Manufacturing International Corporation ("SIMC"), and United Microelectronics Corporation ("UMC"). "4Q24 Global Top 10 Foundries Set New Revenue Record, TSMC Leads in Advanced Process Nodes," TechPowerUp, March 10, 2025, <a href="https://www.techpowerup.com/333868/4q24-global-top-10-foundries-set-new-revenue-record-tsmc-leads-in-advanced-process-nodes">https://www.techpowerup.com/333868/4q24-global-top-10-foundries-set-new-revenue-record-tsmc-leads-in-advanced-process-nodes</a> ("[TSMC] secured a 67% market share to maintain its leading position. Samsung Foundry ranked second, […] representing an 8.1% market share.").

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 329 of 616 PageID #: 26822

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

deployment of CPUs,<sup>71</sup> chips, and solutions across applications such as smartphones, PCs, data centers, automotive systems, and connected devices (IoT).<sup>72</sup>

- 42. In the smartphone segment, Arm's ISA is widely used because of its superior power efficiency and the depth of its ecosystem.<sup>73</sup> Arm-based chips are particularly suitable for mobile environments, where energy consumption and thermal performance are critical, and are supported by a mature suite of tools and developer resources.<sup>74</sup>
- 43. In contrast, the PC and data center segments have historically been dominated by x86-based architectures, primarily from Intel and AMD. Recent advancements in Arm-based CPUs have begun to challenge this status quo. These custom Arm-based designs offer high performance and energy efficiency, making them increasingly viable in laptops and data servers.<sup>75</sup>

<sup>&</sup>lt;sup>71</sup> Different CPUs are created to meet the specific computing and efficiency needs of the different applications.

<sup>&</sup>lt;sup>72</sup> Nikita Kumari, "From Idea to Silicon: How Custom Chip Design Drives Innovation," BISinfotech, July 16, 2025, <a href="https://www.bisinfotech.com/from-idea-to-silicon-how-custom-chip-design-drives-innovation">https://www.bisinfotech.com/from-idea-to-silicon-how-custom-chip-design-drives-innovation</a>.

<sup>&</sup>lt;sup>73</sup> Beth Kindig, "Arm Stock: AI Chip Favorite Is Overpriced," Forbes, Mar 21, 2024, https://www.forbes.com/sites/bethkindig/2024/03/21/arm-stock-ai-chip-favorite-is-overpriced/.

<sup>&</sup>lt;sup>74</sup> Arm 2025 Form 20-F, p. 59 ("The mobile applications processor is the primary chip in a smartphone and runs the operating system and applications in addition to controlling many of the device functions, including gaming, music, video, and any other applications. While high compute performance is required for today's applications, processors also must be highly energy efficient so that the smartphone's battery will last all day without needing to be recharged.").

<sup>&</sup>lt;sup>75</sup> Melissa Riofrio, "Surface Pro X revealed: Thin, light, and supercharged with a custom SQ1 ARM chip," PC World, October 2, 2019, <a href="https://www.peworld.com/article/398146/microsofts-surface-pro-x-is-thin-light-and-supercharged-with-a-custom-sq1-arm-chip.html">https://www.peworld.com/article/398146/microsofts-surface-pro-x-is-thin-light-and-supercharged-with-a-custom-sq1-arm-chip.html</a> ("With SQ1 we pushed the boundary of an ARM-based 7-watt chipset," Panay said. While ARM-based laptops PCWorld has tested so far have been lackluster, Panay claimed 'three times more performance per watt than then Surface Pro 6,' as well as over 2 teraflops of power from the custom GPU."). See also ARMQC 02749177 at '179.

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

- 44. The IoT and automotive segments present a broader range of requirements, including real-time processing, connectivity, and low power consumption.<sup>76</sup> Here, both Arm and its licensees, including Qualcomm, offer tailored solutions that address the specific needs of these segments.<sup>77</sup>
- 45. These segment-specific dynamics are central to understanding the parties' incentives. Qualcomm's diversification strategy targets growth in PCs, automotive, and IoT<sup>78</sup>—segments where Arm's position is evolving and competitive pressure from alternative ISAs, such as x86 and RISC-V, is more pronounced. As a result, the economic implications of Arm's licensing decisions and product strategy vary significantly across segments.

#### C. Arm's Business Model and Licensing Structure

46. Arm's business model entails developing new technologies as well as the licensing and selling of those technologies. Unlike Intel, which does not license its technologies (except to AMD),<sup>79</sup> Arm has chosen to be more open.<sup>80</sup> Arm licenses its technology through two primary mechanisms, the ALA and the TLA. These agreements reflect different levels of customization and engineering responsibility for licensees and allow Arm to serve a broad range of customers—from those seeking turnkey solutions to those investing in differentiated, custom designs.

<sup>&</sup>lt;sup>76</sup> Arm 2025 Form 20-F, p. 60-61 ("The industrial IoT and embedded semiconductor market includes chips used by a wide range of goods, including washing machines, thermostats, digital cameras, drones, sensors, surveillance cameras, manufacturing equipment, robotics, electric motor controllers and city infrastructure and building management equipment. [...] The automotive market includes all chips with processors within vehicles. This includes chips used for in-vehicle-infotainment ("IVI"), advanced driver assistance systems ("ADAS"), engine management, and body and chassis control. Today, our market share in the automotive market is highest in more technologically advanced functional areas such as IVI and ADAS.").

<sup>&</sup>lt;sup>77</sup> Arm estimated that in 2024 its share of the automotive segment was 41% (based on chip value). *See* "Arm Holdings plc, Q4 FYE25 Investor Presentation," Arm Holdings, May 7, 2025, <a href="https://investors.arm.com/static-files/6bb3def3-ddce-4588-bf81-b5a718973274">https://investors.arm.com/static-files/6bb3def3-ddce-4588-bf81-b5a718973274</a>, p. 11.

<sup>&</sup>lt;sup>78</sup> See Section VII.C.2.

<sup>&</sup>lt;sup>79</sup> Intel licenses x86 to AMD as the result of a settlement agreement. See "Intel Antitrust Rulings," https://www.amd.com/en/legal/notices/antitrust-ruling.html, accessed September 4, 2025.

<sup>&</sup>lt;sup>80</sup> Deposition of Richard Grisenthwaite, July 2, 2025 (hereinafter "Grisenthwaite (Arm) Deposition"), 16:17-17:6 ("[...] ARM, as I say in the slide itself, has been involved in the democratization of computing. We have made our technology available in many different ways. Unlike, for example, Intel, we haven't just said buy our chips, we've had architecture licenses, we've had implementations licenses, we've essentially allowed people to come up with their own competitive solutions competing with each other while removing unvaluable differences by having different architectures that are the same in essence but different in detail.").

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 331 of 616 PageID #: 26824

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Architecture License Agreement ("ALA"): Under an ALA, Arm licenses the right to use its ISA, allowing licensees to design their own custom CPU cores. B1 Different licensees engage in different stages of the supply chain. For instance, Apple uses the chips it makes in its own products (such as the iPhone), while Qualcomm sells chips to customers such as Samsung (who, in turn, for example, sells the Samsung Galaxy Android smartphones). These CPU cores must remain compliant with Arm's ISA, but the licensee is responsible for developing the implementation. This model allows for greater customization and flexibility but requires additional and significant engineering investment by the licensee. Arm has historically been selective about granting ALA licenses because not all firms are capable of developing an Arm-compliant custom core, and failed development efforts can be costly to both Arm and its customer. Arm granted an ALA license to Nuvia in 2019, and currently has ALA licenses with Qualcomm, Apple, IBM, Google, Microsoft, and a few other customers.

<sup>&</sup>lt;sup>81</sup> Arm explains that developing own customized CPUs based on the ISA is very difficult: "Under an ALA, the licensee is allowed to develop their own highly customized CPU designs that is compliant with the Arm instruction set architecture ("ISA") for a fixed architecture license fee. As the creation of an optimized CPU is very costly and time consuming, architecture licensees will often also license Arm CPU designs to use either as a complementary processor alongside the licensee's Arm-compliant CPU design, or in other chips where the licensee's own design is unsuitable." Arm 2025 Form 20-F, p. 68. *See also*, Arm Holdings plc, Form F-1, August 21, 2023, <a href="https://www.sec.gov/Archives/edgar/data/1973239/000119312523216983/d393891df1.htm">https://www.sec.gov/Archives/edgar/data/1973239/000119312523216983/d393891df1.htm</a> (hereinafter, "Arm 2023 Form F-1") p. 121 ("With the complexity of CPU design increasing exponentially, over the past decade no company has successfully designed a modern CPU from scratch.").

<sup>82</sup> See ARM 00055357 and QCARM 0338573 for Arm's 2013 ALA with Qualcomm.

<sup>&</sup>lt;sup>83</sup> See, for example, Deposition of Rene Haas, July 7, 2025 (hereinafter "Haas (Arm) Deposition"), 185:10-22, explaining that, "[the auto industry is] a market that's been in transition where OEMs are developing chips, not chip companies. And OEMs need a lot of help in terms of developing SOCs because they're not very experienced. So I believe that going to subsystems, which is the amalgamation of all the IP blocks, would be more advantageous to us because it would get us and the customers to market faster."

<sup>&</sup>lt;sup>84</sup> Deposition of Will Abbey, October 27, 2023 (hereinafter "Abbey (Arm) October 2023 Deposition"), 29:24-30:7 ("So there would be a technical conversation around capabilities because oftentimes just because somebody wants an architecture, they may not know what it takes to make the architecture successful into a product. And so we care passionately about the ecosystem, about making sure our partners are going to be successful, so we talk about capabilities, we talk about risks, we talk about the expertise of the team."). Mr. Grisenthwaite estimates that Arm currently has "between ten and twenty" ALAs but only "about six or seven" ALA partners actively build CPU designs under their ALA, *See* Grisenthwaite (Arm) Deposition, 49:11-24.

<sup>85</sup> See footnote 290.

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

- Technology License Agreement ("TLA"): Under a TLA, Arm provides licensees with OTS CPU designs, also known as implementation cores. Ref. Arm does the engineering work to implement the ISA, and licensees pay to use the pre-designed cores. Recause TLA OTS cores and CSS incorporate more Arm R&D, they generally command a higher royalty rate than the ALA. I understand that the vast majority of Arm's commercial relationships are governed by TLAs, which have historically been the standard licensing model adopted by most of Arm's partners.
- 47. Recently, Arm has expanded the range of licensing options it offers to customers. In 2019, Arm has also introduced Arm Flexible Access ("AFA"), a "pay-as-you-go" model that offers customers "a wide portfolio of [...] Arm technology and tools" with the option of only paying "license fees for IP used in their final chip design and only at the point of manufacture." In 2020, Arm began offering a subscription program called Arm Total Access ("ATA") that provides the "most comprehensive package of IP products, tools and models, support and training, software and physical design" to maximize their customers' success. 91

<sup>&</sup>lt;sup>86</sup> CSS are generally licensed based on a license specific to a CSS or in the Annex of a broader agreement. Conversation with Paul Williamson (Arm's Senior Vice President and General Manager of the IoT Line of Business), September 2, 2025.

<sup>&</sup>lt;sup>87</sup> See ARM 00103918 and ARMQC\_02772366 for Arm's 2013 TLA with Qualcomm.

<sup>&</sup>lt;sup>88</sup> ARM\_01259705 at '794; Deposition of Simon Segars, November 16, 2023 (hereinafter "Simon Segars (formerly Arm) Deposition"), 29:24–30:7.

<sup>&</sup>lt;sup>89</sup> Will Abbey, "Flexible Licensing, Boundless Innovation: How Arm is Accelerating Partner Success," Arm, November 1, 2023, <a href="https://newsroom.arm.com/blog/arm-licensing-models">https://newsroom.arm.com/blog/arm-licensing-models</a>. See also Deposition of Will Abbey, June 26, 2025 (hereinafter "Abbey (Arm) June 2025 Deposition"), 144:19-145:13 ("At the low end, through ARM Flexible Access, we're giving broader access to our partners because we want to deepen and broaden the ecosystem.").

<sup>&</sup>lt;sup>90</sup> Abbey (Arm) June 2025 Deposition, 86:22-87:23; "Arm Total Access," Arm, <a href="https://www.arm.com/products/licensing/arm-total-access">https://www.arm.com/products/licensing/arm-total-access</a>, accessed August 30, 2025 ("Arm Total Access provides the most comprehensive package of IP products, tools and models, support and training, software and physical design in an easy-to-access subscription. Ideal for organizations building complex systems that require multiple Arm products, including the latest Cortex and Neoverse CPUs, Mali GPUs, and CoreLink System IP. The annual subscription includes manufacture rights, as well as full support, training, and development tools.").

<sup>&</sup>lt;sup>91</sup> ARM\_00080472 at '480; ARMQC\_02770676 at '677. See also ARM\_01294236 at '237, a February 2019 presentation describing the vision of the subscription model as a way to create "a business which truly enables customer innovation and focuses on Consumption and Partner success – making Arm the trusted default choice," with benefits for customers ("Greater freedom, better product decisions, fair pricing, lower risk & faster TTM [Time To Market]") and for Arm ("Deeper customer engagement, greater predictability, more design wins, more revenue").

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 333 of 616 PageID #: 26826

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

- 48. Arm's license agreements generally specify that Arm will be paid an upfront license fee and a running royalty based on the number of units sold by the licensee. 92 Royalty rates vary depending on the type of license, the product segment, and the level of customization.
- 49. Unlike the x86 ISA, which is only used by Intel and AMD to develop CPUs, 93 Arm's ISA is broadly licensed across the industry. This licensing model has enabled a wide range of companies to build Arm-based chips for diverse applications. 94 The RISC-V ISA is an open-source alternative that any implementer is free to use, modify, and deploy without the need to pay an upfront licensing fee or running royalty. 95

<sup>&</sup>lt;sup>92</sup> Running royalties can be either a dollar amount per-chip sold or a percentage of the chip's selling price. In fiscal year ending in March 2025, Arm had total revenue of \$1,241 million, consisting of \$607 million in running royalties ("up 18% YoY driven primarily by the continued adoption of the Armv9 architecture, the ramp of chips based on Arm CSS [compute subsystems], and increased usage of Arm-based chips in data centers") and \$634 million in "license and other revenue" ("up 53% YoY due to normal fluctuations in the timing and size of multiple high-value license agreements and contributions from backlog"). *See* "Arm Holdings plc, Q4 FYE25 Investor Presentation," Arm Holdings, May 7, 2025, p. 8, <a href="https://investors.arm.com/static-files/6bb3def3-ddce-4588-bf81-b5a718973274">https://investors.arm.com/static-files/6bb3def3-ddce-4588-bf81-b5a718973274</a>.

<sup>93</sup> Paul Alcorn, "Intel and AMD are unlikely allies in new x86 ecosystem advisory group," Tom's Hardware, October 15, 2024, <a href="https://www.tomshardware.com/pc-components/cpus/intel-and-amd-forge-x86-ecosystem-advisory-group-that-aims-to-ensure-a-unified-isa-moving-forward">https://www.tomshardware.com/pc-components/cpus/intel-and-amd-forge-x86-ecosystem-advisory-group-that-aims-to-ensure-a-unified-isa-moving-forward</a> ("The 46-year-old x86 is the most prevalent ISA used for general computing for PCs and data centers, and Intel and AMD are the only two primary x86 architecture licensees that build new processors in high volumes, creating a duopoly." Recently, "Intel and AMD jointly announced the formation of a new x86 advisory group to ensure a unified x86 instruction set architecture (ISA) moving forward [...] Cooperation between the two, with the input of a bevy of customers and end users, will help to build a more unified approach that reduces or even eliminates custom ISA implementations that can be problematic for the duopoly's hardware and software customers. That's becoming even more important as the x86 ecosystem faces intense pressure from Arm in both the consumer and data center markets, not to mention the continuing rise of RISC-V.").

<sup>&</sup>lt;sup>94</sup> Arm, "The ARM processor business model," <a href="https://developer.arm.com/documentation/dht0001/a/architectures-processors--and-devices/the-arm-processor-business-model">https://developer.arm.com/documentation/dht0001/a/architectures-processors--and-devices/the-arm-processor-business-model</a>, accessed August 22, 2025 ("ARM does not manufacture processor hardware. Instead, ARM creates microprocessor designs that are licensed to our customers, who integrate them into *System-on-Chip* (SoC) devices.").

<sup>&</sup>lt;sup>95</sup> See Section VIII.D.3 for a discussion of current efforts by several large companies, including Qualcomm, to further develop and promote the adoption of RISC-V. RISC-V was developed in 2010 at the University of California, Berkeley as the fifth generation of RISC processors created at the university since 1981. See Roddy Urquhart, "Systems & Design: Opinion, Semiconductor Engineering," March 29, 2021, <a href="https://semiengineering.com/what-does-risc-v-stand-for/">https://semiengineering.com/what-does-risc-v-stand-for/</a>. In 2015, development and maintenance of the standard was transferred to RISC-V International, a non-profit organization based in Switzerland with more than 4,500 members as of 2025. See "About RISC-V," RISC-V International, accessed August 3, 2025, <a href="https://riscv.org/about/">https://riscv.org/about/</a>.

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

#### D. Qualcomm's Business Model

- 50. Qualcomm is a leading semiconductor company that designs and develops chip solutions and other software and services for a wide range of applications, including smartphones, personal computers, automotives, wearables, and other connected systems. The company is also a key contributor to the development and deployment of wireless technology, and owns an extensive portfolio of patents. In fiscal year 2024 (ending in September), Qualcomm had total annual revenues of \$39 billion, more than 10 times the revenue earned by Arm during the same period.
- 51. Qualcomm operates primarily through two business segments:<sup>99</sup>
  - Qualcomm CDMA Technologies ("QCT"): This segment designs and supplies both chips and system-level solutions. 100 Its portfolio includes products for mobile, automotive, personal computing, extended reality, industrial IoT, and networking applications. 101
  - Qualcomm Technology Licensing ("QTL"): This segment manages Qualcomm's IP portfolio, licensing both standard-essential patents ("SEPs") related to cellular technologies such as 3G, 4G, and 5G and non-SEPs to device manufacturers. Qualcomm does not offer licenses to rival suppliers of modem chips, such as Broadcom and MediaTek. 103

<sup>&</sup>lt;sup>96</sup> SAC, ¶¶ 53-54.

<sup>&</sup>lt;sup>97</sup> SAC, ¶¶ 53-54. See also, Qualcomm 2024 Form 10-K, p. 7.

<sup>&</sup>lt;sup>98</sup> In the fiscal year ending September 2024, Qualcomm generated \$39.0 billion in total revenue, consisting of \$32.8 billion from the sale of equipment and services and \$6.2 billion in licensing revenue. Qualcomm 2024 Form 10-K, p. 41. During the same period, Arm generated \$3.5 billion in total revenue. Arm Holdings plc, Quarterly Results, <a href="https://investors.arm.com/financials/quarterly-annual-results">https://investors.arm.com/financials/quarterly-annual-results</a>.

<sup>&</sup>lt;sup>99</sup> "Qualcomm Implements New Corporate Structure," Qualcomm Press Release, October 1, 2012, <a href="https://www.qualcomm.com/news/releases/2012/10/qualcomm-implements-new-corporate-structure">https://www.qualcomm.com/news/releases/2012/10/qualcomm-implements-new-corporate-structure</a>.

<sup>&</sup>lt;sup>100</sup> Qualcomm 2024 Form 10-K, p. 7.

<sup>&</sup>lt;sup>101</sup> Qualcomm 2024 Form 10-K, p. 11 ("QCT utilizes a fabless production model, which means that we do not own or operate foundries for the production of silicon wafers from which our integrated circuits are made. Therefore, we primarily rely on third parties to perform the manufacturing and assembly, and most of the testing, of our integrated circuits based primarily on our proprietary designs and test programs.").

<sup>&</sup>lt;sup>102</sup> Qualcomm 2024 Form 10-K, p. 7.

<sup>&</sup>lt;sup>103</sup> See, for example, Shapiro, Carl & Keith Waehrer, "Using and Misusing Microeconomics: Federal Trade Commission v. Qualcomm," Chapter 15, Antitrust Economics at a Time of Upheaval: Recent Competition Policy

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 335 of 616 PageID #: 26828

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

- 52. According to Qualcomm's most recent Form 10-K, "QCT's current competitors include, but are not limited to, companies such as Broadcom, HiSilicon, MediaTek, Mobileye, Nvidia, NXP Semiconductors, Qorvo, Samsung, Skyworks, Texas Instruments and UNISOC. QCT also faces competition, which may intensify in the future, from products internally developed by [Qualcomm's] customers, including some of [Qualcomm's] largest customers, such as Apple and Samsung, to early-stage companies." The relative strength of rival firms varies by segment. The relative strength of rival firms varies by segment.
- 53. Qualcomm's chips, including its well-known Snapdragon products, typically integrate Arm-based cores—either custom cores designed under an ALA or OTS cores licensed under a TLA—with Qualcomm's own cellular and wireless networking technology. <sup>106</sup> Qualcomm has

Cases on Two Continents (ed. John E. Kwoka, Jr., Tommaso M. Valletti & Lawrence J. White), 2023, Competition Policy International. ("Qualcomm licensed its SEPs to original equipment manufacturers ("OEMs") of mobile devices, such Apple and Samsung. Qualcomm did not offer licenses to its SEPs to rival suppliers of modem chips, such as Intel, Broadcom, and MediaTek. Nor did Qualcomm enforce its patents against these rivals, even though their products infringed Qualcomm's SEPs. Instead, Qualcomm chose to collect its SEP royalties further downstream, from OEMs."). Qualcomm's policy of licensing device manufacturers is aimed at collecting higher royalty revenue. See FTC v. Qualcomm, Case 17-CV-00220-LHK, Judge Lucy H. Koh, Findings of Fact and Conclusions of Law, pp. 129-130 (reporting that Eric Reifschneider (QTL Senior Vice President and General Manager) "told the IRS that Qualcomm decided to 'concentrate our licensing program and our licensing negotiations on the guys who make the cell phones and the base stations and the test equipment, because that's where the real money is.' [...] Thus, when the IRS asked whether Qualcomm's decision to stop licensing its SEPs to rivals was a "business decision," Mary Blecker (QTL Senior Vice President) agreed: 'Oh it's more than that, it's more than that. That's an understatement.' [...] Blecker told the IRS that to license rivals would have 'the potential of threatening our entire revenue stream at the handset level.' [...] Fabian Gonell (now QTL Legal Counsel and Senior Vice President, Licensing Strategy) agreed that Qualcomm stopped licensing rival modem chip suppliers because Qualcomm had to choose between licensing rivals and OEMs, and licensing OEMs is far more lucrative: 'But having – having to choose between one or the other then you're right, obviously the handset is humongously more... . lucrative for a bunch of - a bunch of reasons."").

<sup>&</sup>lt;sup>104</sup> Qualcomm 2024 Form 10-K, p. 12.

<sup>&</sup>lt;sup>105</sup> For example, MediaTek is a strong rival in the mobile segment, and Intel and AMD are strong rivals in PC and data centers. *See* Kelsey Ziser, "MediaTek and Qualcomm's rivalry heats up in 5G smartphone market – Omdia," Light Reading, July 16, 2024, <a href="https://www.lightreading.com/smartphones-devices/mediatek-and-qualcomm-s-rivalry-heats-up-in-5g-smartphone-market-omdia">https://www.lightreading.com/smartphones-devices/mediatek-and-qualcomm-s-rivalry-heats-up-in-5g-smartphone-market-omdia</a> (citing MediaTek as "Qualcomm's biggest industry challenger."). *See* also Timothy Green, "Qualcomm is Going After Intel and AMD in This Lucrative Market," January 16, 2025, <a href="https://finance.yahoo.com/news/qualcomm-going-intel-amd-lucrative-101500205.html">https://finance.yahoo.com/news/qualcomm-going-intel-amd-lucrative-101500205.html</a>.

<sup>&</sup>lt;sup>106</sup> See "Is Snapdragon an ARM Processor? Understanding the Core Technology Behind Qualcomm's Mobile Chipsets," Indian Institute of Embedded Systems, <a href="https://iies.in/blog/is-snapdragon-an-arm-processor-understanding-the-core-technology-behind-qualcomms-mobile-chipsets/">https://iies.in/blog/is-snapdragon-an-arm-processor-understanding-the-core-technology-behind-qualcomms-mobile-chipsets/</a>.

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 336 of 616 PageID #: 26829

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

licensed Arm technology since 1997.<sup>107</sup> This includes an ALA signed in 2003, and the current ALA and TLA, both dated May 30, 2013.<sup>108</sup>

- 54. Although QCT has traditionally focused on the smartphone segment, it is currently pursuing a diversification strategy to expand its sales presence in other applications and end uses. <sup>109</sup> Qualcomm's chips are currently used or are at the development stage in the following segments:
  - *Handsets*: Qualcomm chips are widely used in premium and mid-range smartphones, offering integrated connectivity, AI acceleration, and multimedia processing. 110
  - *Automotive*: Qualcomm provides connectivity, infotainment, and advanced driver-assistance systems ("ADAS") solutions.<sup>111</sup>
  - *IoT*: Qualcomm supports a diverse set of IoT applications, including PCs, wearables, virtual reality, and industrial IoT.<sup>112</sup>
  - *Data center:* Qualcomm's initial effort to supply chips for data center servers was halted in 2018. <sup>113</sup> More recently, Qualcomm has explored Arm-based server processors, particularly through its custom CPU initiatives. In May 2025, Qualcomm announced its

<sup>&</sup>lt;sup>107</sup> Qualcomm is currently one of Arm's largest customers and "accounted for 10% of our total revenue for the fiscal year ended March 31, 2025." *See* Arm 2025 Form 20-F, p. 28.

<sup>&</sup>lt;sup>108</sup> SAC, ¶¶ 3, 53.

<sup>&</sup>lt;sup>109</sup> See Qualcomm 2024 Form 10-K, p. 44. See also "Qualcomm Inc. Investor Day," Qualcomm, Cristiano Amon, November 16, 2021, pp. 3-4,

https://d1io3yog0oux5.cloudfront.net/ 9145a2f999cf4f4b2b0c08721e637935/qualcomm/db/703/7061/file/QCOM-USQ Transcript 2021-11-16 Investor%20Day%20(1).pdf; "Qualcomm Inc., Investor Day," Qualcomm, Cristiano Amon, November 19, 2024, , pp. 2-3,

https://s204.q4cdn.com/645488518/files/doc\_events/2024/Nov/19/Qualcomm-Investor-Day-2024 Cristiano StrategicFramework 11-19-24.pdf.

<sup>110 &</sup>quot;Our Businesses," Qualcomm, https://www.qualcomm.com/our-businesses, accessed August 5, 2025.

<sup>&</sup>lt;sup>111</sup> Steve McDowell, "Qualcomm's Game-Changing Move Into Automotive And Industrial IoT," Forbes, January 28, 2025, <a href="https://www.forbes.com/sites/stevemcdowell/2025/01/28/qualcomms-game-changing-move-into-automotive-and-industrial-iot/">https://www.forbes.com/sites/stevemcdowell/2025/01/28/qualcomms-game-changing-move-into-automotive-and-industrial-iot/</a>.

<sup>112 &</sup>quot;Our Businesses," Qualcomm, https://www.qualcomm.com/our-businesses, accessed August 5, 2025.

<sup>&</sup>lt;sup>113</sup> See "4 Reasons Qualcomm's Data Center Business Failed," The Motley Fool, December 21, 2018, <a href="https://www.nasdaq.com/articles/4-reasons-qualcomms-data-center-business-failed-2018-12-21">https://www.nasdaq.com/articles/4-reasons-qualcomms-data-center-business-failed-2018-12-21</a> ("Qualcomm downsized its data center unit in June but denied that it was exiting the market. However, several rounds of layoffs, including one in early December, reduced the size of Qualcomm's data center technologies group from roughly 1,000 employees to about 50.").

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 337 of 616 PageID #: 26830

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

first data center chip in partnership with NVIDIA.<sup>114</sup> In July 2025, Qualcomm signed a term sheet with that included plans for a data center chip. <sup>115</sup> According to Qualcomm's most recent July 2025 earnings call, however, it appears that Qualcomm will not begin selling any data center chips before fiscal year 2028.<sup>116</sup>

55. In March 2021, Qualcomm acquired Nuvia, a startup founded by former Apple and Google chip designers, for \$1.4 billion. Founded in 2019, Nuvia was developing high-performance custom CPU cores for data center applications based on the Arm ISA. The custom CPUs based on Nuvia technology are expected to power current and future generations of Snapdragon platforms, particularly in premium smartphones, PCs, and

<sup>114</sup> Sebastian Moss, "Qualcomm Announces Data Center CPUs, Will Support Nvidia's NVLink Fusion," Data Center Dynamics, May 20, 2025, <a href="https://www.datacenterdynamics.com/en/news/qualcomm-announces-data-center-cpus-will-support-nvidias-nvlink-fusion/">https://www.datacenterdynamics.com/en/news/qualcomm-announces-data-center-cpus-will-support-nvidias-nvlink-fusion/</a>. In June 2025, Qualcomm announced its intention to acquire Alphawave Semi aiming "to further accelerate, and provide key assets for, Qualcomm's expansion into data centers." *See* "Qualcomm to Acquire Alphawave Semi," Qualcomm, June 9, 2025, <a href="https://www.qualcomm.com/news/releases/2025/06/qualcomm-to-acquire-alphawave-semi">https://www.qualcomm.com/news/releases/2025/06/qualcomm-to-acquire-alphawave-semi</a>.

<sup>116 &</sup>quot;Q3 2025 Qualcomm Inc. Earnings Call," Qualcomm, July 30, 2025, p. 4, https://s204.q4cdn.com/645488518/files/doc\_events/2025/Jul/30/Q3FY25-Earnings-Call-Transcript\_7-30-25\_Final.pdf (Mr. Amon explained: "Now I would like to provide an update on our expansion into the data center. This represents a new growth opportunity for Qualcomm and is a logical extension of our diversification strategy as we continue to demonstrate leadership in CPU performance and NPU efficiency. [...] While we are in the early stages of this [datacenter] expansion, we are engaged with multiple potential customers and are currently in advanced discussions with a leading hyper-scaler. If successful, we expect revenues to begin in the fiscal '28 timeframe.").

<sup>&</sup>lt;sup>117</sup> "Qualcomm Completes Acquisition of NUVIA," Qualcomm Press Release, March 15, 2021, <a href="https://www.qualcomm.com/news/releases/2021/03/qualcomm-completes-acquisition-nuvia">https://www.qualcomm.com/news/releases/2021/03/qualcomm-completes-acquisition-nuvia</a>.

<sup>&</sup>lt;sup>118</sup> "NUVIA Raises \$53 Million to Reimagine Silicon Design for the Data Center," Globe News Wire, November 15, 2019, <a href="https://www.globenewswire.com/news-release/2019/11/15/1948072/0/en/NUVIA-Raises-53-Million-to-Reimagine-Silicon-Design-for-the-Data-Center.html">https://www.globenewswire.com/news-release/2019/11/15/1948072/0/en/NUVIA-Raises-53-Million-to-Reimagine-Silicon-Design-for-the-Data-Center.html</a>.

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 338 of 616 PageID #: 26831

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

#### IV. ORIGIN OF THE DISPUTE

- 56. The origin of the dispute between Arm and Qualcomm is a contractual disagreement triggered by Qualcomm's acquisition of Nuvia in March 2021.<sup>120</sup> Arm filed a breach of contract lawsuit against Qualcomm in August 2022.<sup>121</sup> The present litigation is a closely related follow-on complaint that Qualcomm and Nuvia filed in April 2024.<sup>122</sup> As part of its UCL claim, Qualcomm argues, among other things, that the lawsuit that Arm filed in August 2022 is part of a broad "campaign" to undermine Qualcomm that also involves various other Arm actions (e.g., "making misleading statements to Qualcomm's customers [...].").<sup>123</sup>
- 57. In September 2019, Arm entered into an ALA with Nuvia, a start-up that designed chips for data centers. 124

<sup>&</sup>lt;sup>120</sup> The contracts at issue are Arm's ALAs with Qualcomm and Nuvia.

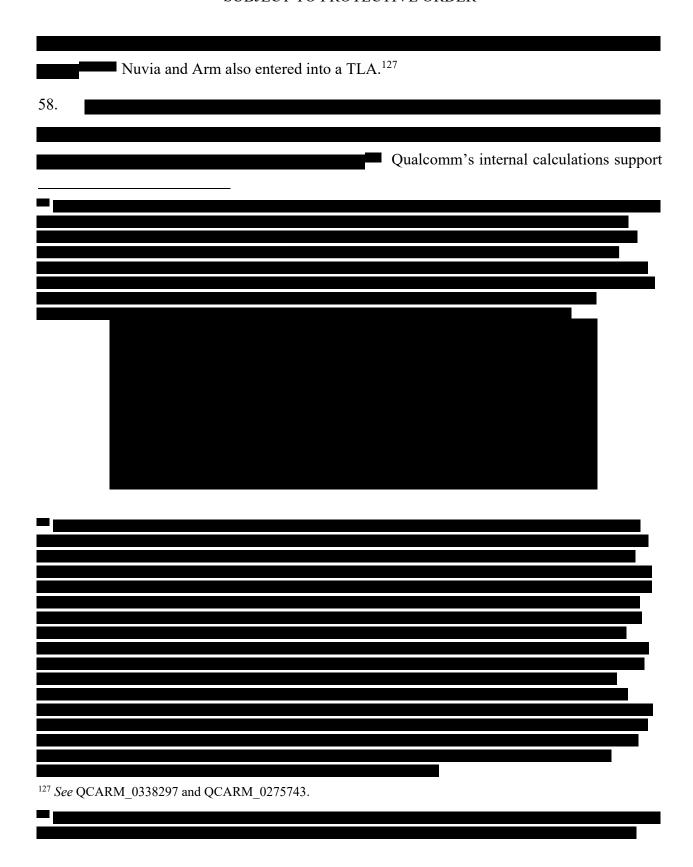
<sup>&</sup>lt;sup>121</sup> "Arm Files Lawsuit Against Qualcomm and Nuvia for Breach of License Agreements and Trademark Infringement," Arm, August 31, 2022, <a href="https://newsroom.arm.com/news/arm-files-lawsuit-against-qualcomm-and-nuvia-for-breach-of-license-agreements-and-trademark-infringement">https://newsroom.arm.com/news/arm-files-lawsuit-against-qualcomm-and-nuvia-for-breach-of-license-agreements-and-trademark-infringement</a>.

<sup>&</sup>lt;sup>122</sup> See Qualcomm Inc. v. Arm Holdings, plc., C.A. No. 24-490-MN, Dkt. No. 233, Arm's Opening Brief In Support of Its Partial Motion To Dismiss Qualcomm's Second Amended Complaint, June 17, 2025, p. 3.

<sup>&</sup>lt;sup>123</sup> SAC, ¶ 207.

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 339 of 616 PageID #: 26832

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

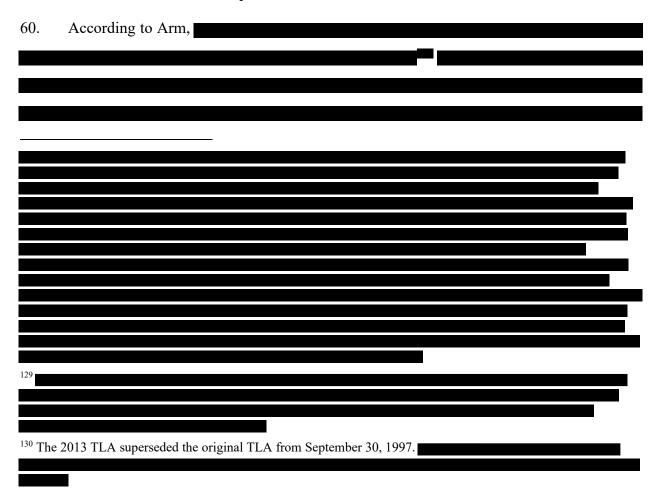


#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 340 of 616 PageID #: 26833

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

	_	Arm and
Oualcomm also have a TLA. 130		

59. The different terms in the Nuvia and Qualcomm ALA licenses reflect Arm's approach to licensing, where each license agreement is considered "individually and in the context of the specific needs of the partner, market segment, and end-users, resulting in various license structures." Arm's contracts with customers "are all unique, given the terms, [...] the length of the license, the rights that are granted, so they're [...] typically custom," such that "every different contract is somewhat bespoke."



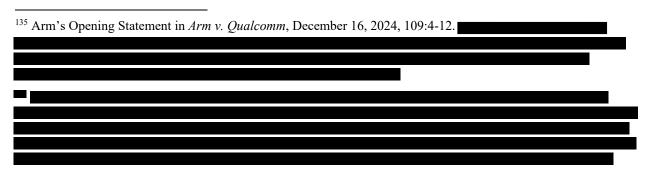
<sup>&</sup>lt;sup>131</sup> See "Arm's First Supplemental Objections and Responses to Qualcomm's Second Set of Interrogatories (No 4-11)," Arm Holdings, July 11, 2025, p. 18.

<sup>&</sup>lt;sup>132</sup> Haas (Arm) Deposition, 169:20-22.

<sup>&</sup>lt;sup>133</sup> Haas (Arm) Deposition, 169:7-8.

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

- 61. Qualcomm completed the acquisition of Nuvia in March 2021. Arm contends that the license it granted Nuvia could not be "transferred" to Qualcomm without Arm's consent and that Qualcomm could not use Nuvia's designs built using the Nuvia ALA without Arm's prior consent. Arm further contends that Qualcomm incorporated Nuvia's technology in its custom CPUs without obtaining Arm's consent. Qualcomm disputes that Arm's consent was required, and it also claims that the royalty it should pay on those CPUs is the much lower royalty rate in Qualcomm's ALA (a claim that Arm has disputed), rather than the significantly higher rate in Nuvia's ALA.
- 62. Unable to reach an agreement with Qualcomm on the transfer of Nuvia's Arm-based technology, Arm terminated its licenses with Nuvia on February 1, 2022, and requested that Qualcomm destroy and stop using custom chips based on Nuvia's technology pursuant to the terms of the Nuvia ALA. <sup>137</sup> On August 31, 2022, Arm filed the *Arm v. Qualcomm* litigation. <sup>138</sup> After filing the lawsuit, Arm made public statements and corresponded with customers informing them of the lawsuit, explaining its reason for initiating the litigation and its belief that Qualcomm was in breach of Nuvia ALA. <sup>139</sup> Qualcomm initially filed a lawsuit concerning the Qualcomm ALA in



<sup>&</sup>lt;sup>137</sup> QCARM 0338883.

<sup>&</sup>lt;sup>138</sup> "Arm Files Lawsuit Against Qualcomm and Nuvia for Breach of License Agreements and Trademark Infringement," Arm, August 31, 2022, <a href="https://newsroom.arm.com/news/arm-files-lawsuit-against-qualcomm-and-nuvia-for-breach-of-license-agreements-and-trademark-infringement">https://newsroom.arm.com/news/arm-files-lawsuit-against-qualcomm-and-nuvia-for-breach-of-license-agreements-and-trademark-infringement</a>.

<sup>&</sup>lt;sup>139</sup> *Ibid. See also,* examples of Arm's correspondence with customers about the lawsuit, ARM\_01238895, ARM 01230977, ARM 00110511.

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 342 of 616 PageID #: 26835

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

April 2024. 140 Qualcomm amended its claims to add the claims addressed by Prof. Posner in December 2024 and April 2025.

# V. PROF. POSNER'S ANALYSIS OF THE RELEVANT MARKETS AND MARKET POWER IS INCOMPLETE AND IGNORES KEY FEATURES OF THE INDUSTRY

63. Prof. Posner does not explicitly conduct a "market definition" exercise, nor does he explicitly define the relevant product or geographic market, as for example specified in the U.S. merger guidelines. <sup>141</sup> His perfunctory analysis is superficial, and while he mentions some analytical tools that economists generally employ to delineate the relevant antitrust markets, he does not undertake those analyses himself. <sup>142</sup> The methods that economists use to define a relevant antitrust market receive little more than a sentence in his report, yielding an analysis that is insufficiently connected to the facts to produce a reliable conclusion. <sup>143</sup>

<sup>&</sup>lt;sup>140</sup> See Qualcomm Inc. v. Arm Holdings, plc., C.A. No. 24-490-MN, Dkt. No. 233, Arm's Opening Brief In Support of Its Partial Motion To Dismiss Qualcomm's Second Amended Complaint, June 17, 2025, p. 3.

<sup>&</sup>lt;sup>141</sup> See, for example, U.S. Department of Justice & The Federal Trade Commission, "Vertical Merger Guidelines," June 30, 2020 (now withdrawn), <a href="https://www.ftc.gov/system/files/documents/reports/us-department-justice-federal-trade-commission-vertical-merger-guidelines/vertical-merger-guidelines/vertical-merger-guidelines-federal-trade-commission-vertical-merger-guidelines/vertical-merger-guidelines-federal-trade-commission-vertical-merger-guidelines/vertical-merger-guidelines-federal-trade-commission-vertical-merger-guideli

<sup>&</sup>lt;sup>142</sup> Prof. Posner does not use the Hypothetical Monopolist Test or the "Small but Significant Non-transitory Increase in Price" ("SSNIP") Test, which are common methods used by economists to identify a group of products that constitute a relevant antitrust market. *See* U.S. Department of Justice & The Federal Trade Commission, Merger Guidelines, December 18, 2023, <a href="https://www.justice.gov/d9/2023-12/2023%20Merger%20Guidelines.pdf">https://www.justice.gov/d9/2023-12/2023%20Merger%20Guidelines.pdf</a>, § 4.3.A (explaining that the Hypothetical Monopolist Test "is a method by which the Agencies often define relevant antitrust markets," and describing the SSNIP Test.).

<sup>&</sup>lt;sup>143</sup> For example, in paragraph 58, Prof. Posner states that "Arm's dominance is widely recognized by the industry," which may be a hint to the "industry or public recognition of the submarket as a separate economic entity" discussed in the U.S. merger guidelines (U.S. Department of Justice & The Federal Trade Commission, Merger Guidelines, December 18, 2023, <a href="https://www.justice.gov/d9/2023-12/2023%20Merger%20Guidelines.pdf">https://www.justice.gov/d9/2023-12/2023%20Merger%20Guidelines.pdf</a>, p. 41). However, Prof. Posner does not consider that, as recently discussed by Prof. Hovenkamp, "industry recognition, might be right depending on what the industry is recognizing. If they are looking at their closest price competitors, then this factor might provide a crude metric but certainly not as precise as the HMT. Other factors, such as a product's 'peculiar characteristics and uses' are so generic that they do not provide much guidance." Herbert Hovenkamp, "Antitrust Market Definition: the Hypothetical Monopolist and Brown Shoe," Network Law Review, April 4, 2024, <a href="https://www.networklawreview.org/hovenkamp-market-definition/">https://www.networklawreview.org/hovenkamp-market-definition/</a>. Prof. Posner's mention of an article on the CNBC website stating that "Arm has become the dominant company making this chip architecture, and it powers nearly every smartphone today" (Posner Report, footnote 95) falls far short of the fact-intensive investigation

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 343 of 616 PageID #: 26836

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

- 64. Prof. Posner seems to posit a market for the supply of Arm's ISA, reaching the conclusion that Arm "has a monopoly or a dominant position" because Arm is the only supplier of its own ISA. 144 For example, he states:
  - "Arm has a monopoly or a dominant position as the supplier of the Arm ISA to companies that design and manufacture CPUs for Systems-on-a-Chip (SoCs) that are compatible with the Arm ISA." 145
  - "Chip designers who make Arm-compliant chips for mobile phones and certain other products do not treat non-Arm ISAs as substitutes for the Arm ISA." 146
  - "Arm's ISA has no rivals at all in the Arm ecosystem for the simple reason that Arm demands that a license is necessary to design and sell Arm-compliant SoCs or cores." 147
- 65. Prof. Posner is non-committal and vague about whether he concludes that there is a single market for the supply of the Arm ISA as opposed to separate markets for different applications. Concerning the chip applications, he appears to define multiple markets because different applications have different requirements.
- 66. In Prof. Posner's theory, Arm can exercise its "monopoly power" to foreclose Qualcomm (and any other customers), potentially leading to higher prices or lower quality for Arm-based chips. This Section of my report explains how Prof. Posner's market definition provides a biased view that ignores important competitive constraints that Arm faces.

underlying reliable market definition exercises. *See*, for example, U.S. Department of Justice & The Federal Trade Commission, Commentary on the Horizontal Merger Guidelines, 2006, <a href="https://www.justice.gov/d9/383663.pdf">https://www.justice.gov/d9/383663.pdf</a>, at p. 3 ("Investigations Are Intensively Fact-Driven, Iterative Processes."). Further, in the very same paragraph 58, as well as again in his paragraphs 11 and 64, Prof. Posner in fact acknowledges that Intel x86—not the Arm ISA—is dominant in key chip applications including data center and personal computers, directly undermining his sweeping claim that "Arm's dominance is widely recognized by the industry."

<sup>&</sup>lt;sup>144</sup> Posner Report, ¶ 11.

<sup>&</sup>lt;sup>145</sup> Posner Report, ¶ 11.

<sup>&</sup>lt;sup>146</sup> Posner Report, ¶ 33. Prof. Posner does not identify these "certain other products." *See* also *id.*, ¶ 30 ("In the course of its analysis [of the proposed Nvidia acquisition of Arm], the FTC noted that there are no close substitutes for ARM's ISA.") and ¶ 55 ("Firms that produce Arm-compliant SoCs and cores under one of the Arm licenses cannot substitute to non-Arm ISA licenses if Arm raises the price of its licenses substantially above marginal cost.").

<sup>&</sup>lt;sup>147</sup> Posner Report, ¶ 58.

<sup>&</sup>lt;sup>148</sup> Posner Report, ¶ 70.

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 344 of 616 PageID #: 26837

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

### A. Prof. Posner Improperly Disregards the Competitive Constraint from the x86 and RISC-V Ecosystems

- 67. Prof. Posner's analysis completely disregards competition from the x86 and RISC-V ecosystems. He appears to exclude Intel's x86 because it is not licensed to third parties. <sup>149</sup> Despite acknowledging that "RISC-V is a threat to Arm's dominance," he excludes RISC-V due to its current limitations. <sup>151</sup>
- 68. Prof. Posner's analysis is incomplete and misleading. Irrespective of whether Arm is a "monopolist" in a purported upstream market for the supply of Arm's ISA (as Prof. Posner asserts, without any analysis), the Arm ecosystem does in fact face competition from the x86 and RISC-V ecosystems. Any material deterioration in the value provided by the Arm ecosystem will disincentivize the development of Arm-based technologies for current and future applications, incentivize the development of alternative ecosystems, and push companies towards alternative ecosystems so that Arm-based chips can be displaced by non-Arm-based chips. Prof. Posner recognizes this in his report but ignores its implications for his analysis. While Prof. Posner

<sup>&</sup>lt;sup>149</sup> Posner Report, ¶ 55 ("Firms that produce Arm-compliant SoCs and cores under one of the Arm licenses cannot substitute to non-Arm ISA licenses if Arm raises the price of its licenses substantially above marginal cost.").

<sup>150</sup> Posner Report, ¶ 78. I note that Prof. Posner asserts that Arm "may raise upstream barriers of entry against upstarts like RISC-V" and as evidence he claims "Arm has attempted to spread 'fear, uncertainty, and doubt' about RISC-V. Among other things, Arm launched a website with the web address 'riscv-basics.com,' which was 'designed to plant seeds of doubt in the minds of developers who might use RISC-V as their processor architecture instead of Arm." What Prof. Posner failed to mention is that the source document he cites makes clear the website was only live for a single day: "The website was taken down a day later, after uproar from angry Arm engineers in Cambridge." See QCVARM\_1066820 at 7165 (document cited by Prof. Posner). See also Chris Williams, "Up in arms! Arm kills off its anti-RISC-V smear site after own staff revolt," The Register, July 10, 2018, <a href="https://www.theregister.com/2018/07/10/arm riscv website/">https://www.theregister.com/2018/07/10/arm riscv website/</a> ("Arm has taken offline its website attacking rival processor architecture RISC-V within days of it going live – after its own staff objected to the underhand tactic. [...] If anything, the site made RISC-V sound like a viable alternative to Arm's crown, giving the upstart architecture more credibility.").

<sup>&</sup>lt;sup>151</sup> Posner Report, ¶ 35 ("because of the enormous complexity of coordination among multiple firms necessary to move from one network to another, RISC-V is unlikely to displace Arm's ISA in most sectors, including mobile and other sectors that require high-level operating systems, for many years, if ever.").

<sup>&</sup>lt;sup>152</sup> See, for example, Armstrong, Mark, "Competition in Two-Sided Markets," 2006, RAND Journal of Economics, Vol. 37, No. 3.

<sup>&</sup>lt;sup>153</sup> Posner Report, ¶ 90 ("As the industry observes Arm's mistreatment of Qualcomm, firms will become less willing to invest in the Arm ecosystem. Their incentives to invest are reduced because the more successful they are at designing Arm-compliant chips, the more likely that Arm will try to take their business away from them. […] Rather than invest in new Arm-compliant products, firms will look for ways to escape the Arm ecosystem, for example, by

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 345 of 616 PageID #: 26838

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

acknowledges that "RISC-V is a threat to Arm's dominance, as Arm is well-aware," he fails to
account for it as a current and future competitive constraint. 155
1
Evidence also shows that Qualcomm has already
adopted RISC-V in some applications, such as microcontrollers, and it has announced developing
a RISC-V application processor for wearables. <sup>159</sup>

collaboratively or unilaterally developing an alternative ISA. The early development of the open-source ISA, RISC-V, may reflect this concern.").

<sup>155</sup> The inference that Prof. Posner seems to draw from the fact that Arm sees RISC-V as a threat is that this creates an incentive for Arm to anticompetitively harm RISC-V. However, he provides no evidence. In the absence of evidence, the most likely scenario is that harm to rivals is just competition at work. In *United States v. Aluminum Co. of Am.*, 148 F.2d 416, 430 (2d Cir. 1945), Judge Hand famously captured the idea that competition harms rivals by stating that it would be contrary to the spirit of the antitrust laws to punish a firm that led to the exit of its rivals as a result of its "superior skill, foresight and industry. [...] The successful competitor, having been urged to compete, must not be turned upon when he wins."

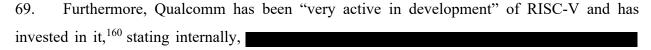


159 See Section VIII.D.3. See also Francisco Cheng, "What is RISC-V, and why we're unlocking its potential," Qualcomm, September 8, 2023, <a href="https://www.qualcomm.com/news/onq/2023/09/what-is-risc-v-and-why-were-unlocking-its-potential">https://www.qualcomm.com/news/onq/2023/09/what-is-risc-v-and-why-were-unlocking-its-potential</a>; "Keynote: Accelerating Innovation with RISC-V: Past, Present and Future - Manju Varma," RISC-V International, YouTube, December 29, 2022, at 1:01, <a href="https://www.youtube.com/watch?v=t6\_9pbgg1LI&ab\_channel=RISC-VInternational">https://www.youtube.com/watch?v=t6\_9pbgg1LI&ab\_channel=RISC-VInternational</a> (Manju Varma (Qualcomm) stating: "To date, we have shipped over 650 million RISC-V cores in the market and this number just keeps growing. [...] We have shipped RISC-V cores in PC, mobile, automotive, XR, and wearable segments."); "Qualcomm to Bring RISC-V Based Wearable Platform to Wear OS by Google," Qualcomm, October 17, 2023, <a href="https://www.qualcomm.com/news/releases/2023/10/qualcomm-to-bring-risc-v-based-wearable-platform-to--wear-os-by-">https://www.qualcomm.com/news/releases/2023/10/qualcomm-to-bring-risc-v-based-wearable-platform-to--wear-os-by-</a>; "Keynote: Unlocking Innovation with RISC-V and Qualcomm - Ziad Asghar," RISC-V International, YouTube, November 29, 2023, at 8:59, <a href="https://www.youtube.com/watch?v=9h9LwkPnrUw&ab\_channel=RISC-VInternational">https://www.youtube.com/watch?v=9h9LwkPnrUw&ab\_channel=RISC-VInternational</a> (Ziad Asghar (Qualcomm) stating: "[T]his was a couple of weeks ago where we talked about our engagement with Google. What we're going to be doing is to be creating a product for wearables which is a smartwatch that actually uses RISC-V as the application processor.").

<sup>&</sup>lt;sup>154</sup> Posner Report, ¶ 78.

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 346 of 616 PageID #: 26839

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER



of the Board of Directors for RISC-V International is Lu Dai, Qualcomm's Senior Director of Engineering, <sup>162</sup> and Qualcomm is a founding member of Quintauris, a joint venture formed with other major semiconductor companies (Bosch, Infineon, Nordic Semiconductor, NXP, and STMicroelectronics) "to accelerate the development and commercialization of RISC-V-based products." <sup>163</sup> In addition, many of the largest firms in the tech sector collaborate to develop software for the RISC-V ISA through the RISC-V Software Ecosystem, or "RISE," which "is a collaborative effort led by industry leaders with a mission to accelerate the development of open source software for the RISC-V architecture." <sup>164</sup> Members of RISE include Nvidia, Samsung, Qualcomm, Google, MediaTek, Red Hat, Alibaba, and others. <sup>165</sup>

<sup>160 &</sup>quot;Qualcomm Investor Day 2024: IoT and Automotive Diversification Update," Qualcomm, November 19, 2024, https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/images/company/company/events/investor-day-2024/QCOM-Investor-Day-2024-transcript.pdf, p. 29 (Amon touting Qualcomm's role in the development of RISC-V: "Look, there has been quite a bit of development on RISC-V. I think also, there was a desire to actually drive RISC-V towards high performance and commercialization. As a matter of fact, I think we've been very pleased at Qualcomm being elected to chair, I think the standard body right now, we have been very active in development. There's a number of other companies and ecosystems. I think we have a joint venture called Qu[i]enta[u]ris, which is a really focus of that with some of the European semiconductor company. It will take time, but I think it's encouraging to see development on RISC-V, especially as not a lot of love, I think, to semiconductor companies from the other ecosystem [Arm]. I think that's an accelerate, accelerating. I think the R&D on RISC-v [sic] across the board.").

<sup>&</sup>lt;sup>162</sup> "RISC-V International Governance," RISC-V, <a href="https://riscv.org/about/board/">https://riscv.org/about/board/</a>, accessed August 13, 2025. In addition, Larry Wikelius, Senior Director at Qualcomm, is a member of the Governing Board of RISC-V Software Ecosystem industry consortium (according to "Governing Board," RISE, The Linux Foundation Projects, <a href="https://riseproject.dev/leadership/">https://riseproject.dev/leadership/</a>, accessed August 26, 2025.). "The RISC-V Software Ecosystem (RISE) project is a collaborative effort led by industry leaders with a mission to accelerate the development of open source software for the RISC-V architecture" (see "Accelerating the RISC-V Software Ecosystem," RISE, The Linux Foundation Projects, <a href="https://riseproject.dev/">https://riseproject.dev/</a>, accessed August 26, 2025.).

<sup>&</sup>lt;sup>163</sup> "Quintauris: Accelerating RISC-V Innovation for next-gen Hardware," November 4, 2024, <a href="https://www.quintauris.com/quintauris-accelerating-risc-v-innovation-for-next-gen-hardware">https://www.quintauris.com/quintauris-accelerating-risc-v-innovation-for-next-gen-hardware</a>.

<sup>&</sup>lt;sup>164</sup> "Accelerating the RISC-V Software Ecosystem," RISE, The Linux Foundation Projects, <a href="https://riseproject.dev/">https://riseproject.dev/</a>, accessed August 26, 2025.

<sup>&</sup>lt;sup>165</sup> "Governing Board," RISE, The Linux Foundation Projects, <a href="https://riseproject.dev/leadership/">https://riseproject.dev/leadership/</a>, accessed August 26, 2025.

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 347 of 616 PageID #: 26840

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

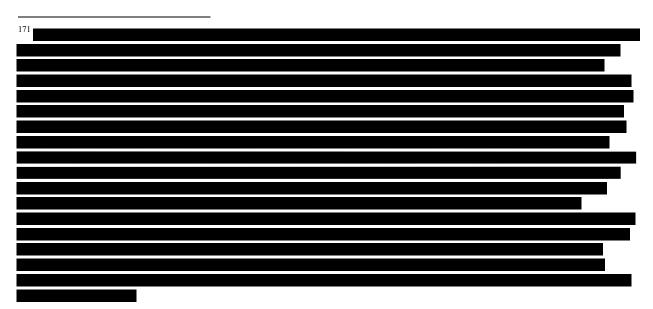
70.
167
71. Qualcomm's dispute with Arm seems to have increased Qualcomm's effort to support RISC-V. 168
<sup>169</sup> Whi
RISC-V does not appear to currently compete in certain applications, such as mobile, it material become a viable alternative in the future. 170
166
168 See Section VIII.D.3.
169
170

The relevance of future competition is acknowledged in the U.S. Merger Guidelines, which state that "[f]irms not currently supplying products in the relevant market, but that have committed to entering the market in the near future, are also considered market participants." U.S. Department of Justice & The Federal Trade Commission, Merger Guidelines, December 18, 2023, <a href="https://www.justice.gov/d9/2023-12/2023%20Merger%20Guidelines.pdf">https://www.justice.gov/d9/2023-12/2023%20Merger%20Guidelines.pdf</a>, § 4.4.A.

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 348 of 616 PageID #: 26841

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

This threat of future competition is particularly relevant since Prof. Posner's foreclosure story relies on a claim that Arm aims to steer Qualcomm away from designing custom cores, accepting "short term" royalty losses in favor of higher "long term" margins from licensing or selling its own cores and chips. <sup>172</sup> Prof. Posner does not consider that these "long term" benefits may not materialize because of competition from RISC-V or x86. <sup>173</sup>



<sup>&</sup>lt;sup>172</sup> Posner Report, ¶ 13 ("Arm seeks to drive Qualcomm away from designing custom cores, even if it means Arm loses royalties on those custom cores in the **short term**, because Arm's margins on selling and/or licensing its own cores, chips and SoCs would be higher in the **long term** than the margins on existing ALA licenses." (emphasis added)).

<sup>&</sup>lt;sup>173</sup> See, for example, ARMQC 02726982, a January 2024 presentation from Arm tracking RISC-V progress as well as the "risks [that] RISC-V poses to Arm" and "key market problems" arising from the adoption of RISC-V. The presentation shows evidence that the RISC-V ISA competes with Arm ISA in several lines of business. For example, at '985 to '989, it highlights in automotives, RISC-V is "encroaching R & M for all automotive" and "SIPs [silicon providers] building their own ecosystem making RISC-V credible," in IoT, Arm needs to "continue investing in the Ecosystem to maintain its leadership" in response to the "growing [RISC-V] ecosystem," and in data center, "RISC-V has gained traction as preferred arch[itecture] amongst CPSs and Infra startups to build custom datacenter class AI hardware accelerators for training/inference," where RISC-V competitors have developed full systems targeted towards data centers. At '991, Arm further identifies "[l]oss of [s]martwatch [m]arket" and "[p]artnership between Google and QCOM" where Arm needs to "[u]nderstand why the customer is migrating to RISC-V." ARMQC 02748499 at '501, a September 2021 presentation titled "IPG Risk Profile," identifying the risk that "x86 architecture leverages its dominant position in servers and PCs to compete against ARM in core or growth markets."; ARM 00076604 at '605 and '637 (October 2021 presentation titled "Infrastructure LoB: Business and Strategy Review," identifying a "[t]echnology gap with Intel and AMD" in data centers, and stating that "[e]xecution of planned technology roadmap with speed of light integration of customer feedback is important depending on our customers to bring much of the innovation AMD and Intel are trying to bring to the market.").

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 349 of 616 PageID #: 26842

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

- 72. In reality, the critical threat of future competition from RISC-V, which has the benefit of being a freely available open source ISA, acts as a constraint on Arm today. <sup>174</sup> To illustrate the flaw in Prof. Posner's reasoning, consider that—by his logic—Intel would be a vertically integrated monopolist supplier of the x86 ISA. <sup>175</sup> Yet, this has not protected the x86 ecosystem from Arm's expansion in applications such as PCs and data centers where x86 once accounted for nearly 100 percent of sales. <sup>176</sup>
- 73. Regardless of whether Prof. Posner is correct in calling Arm the "monopolist" supplier of its own ISA, his failure to account for competitive constraints from non-Arm ISAs is a fatal flaw. It matters little whether x86 and RISC-V ISAs are, formalistically, included in the same market as

<sup>174</sup> See ARMQC\_02600713 at '716 (In the context of a December 2022 Arm internal discussion about RISC-V, Peter Greenhalgh, SVP of Technology at Arm, stated: "In the IoT and Embedded world, the quality and PPA [Price, Performance, Area] of our [Arm's] CPU offerings will not be sufficient to offset the massive pricing pressure we would come under the myriad of small RISC-V IP companies and internal developments."). Arm has recognized that the competitive threat from RISC-V is related to Arm's own strategic business decisions. For example, when Arm was considering a "direct-to-OEM business model," it was concerned that such an approach would lead to increased RISC-V adoption. See ARMQC\_02739661 at '661 and '671 (A 2021 Arm "[w]orking draft strategic narrative to support the FY22-FY25 financial plan which is the cornerstone of our Initial Public Offering" highlights "Key risks to the plan[:] [...] In this section, we dive into the risk that the drive by Arm to a direct-to-OEM business model will push OEMs to look elsewhere, either to competing Arm-architecture products (e.g., Qualcomm's own designs), or products based on the x86 or RISC-V architectures. If this happens in a material way, it can be catastrophic to Arm delivering on its business goals, valuation and growth plans. The direct-to-OEM business model project needs to monitor for signs that companies are seriously considering alternate investments. The 'stickiness' of Arm's architecture and ecosystem mitigates this risk somewhat, but we estimate that the industry would only need to spend \$5Bn to create a credible Android smartphone alternative to Arm from RISC-V.").

<sup>&</sup>lt;sup>175</sup> Or a duopoly if accounting for AMD, who receives a license to x86 as part of a settlement agreement. *See* Greg Tang, "Intel and the x86 Architecture: A Legal Perspective," The Harvard Journal of Law & Technology, January 4, 2011, https://jolt.law.harvard.edu/digest/intel-and-the-x86-architecture-a-legal-perspective. In either case, Arm would not be part of the market that Prof. Posner's approach would imply.

<sup>176</sup> Based on Counterpoint Research estimates, x86's PC share in 2019 was 99% (with Intel at 84% and AMD at 15.1%), with Arm at less than 1%. See Anton Shilov, "Arm-Based CPUs Could Double Notebook PC Market Share by 2027: Report," Tom's Hardware, April 11, 2023, <a href="https://www.tomshardware.com/news/arm-based-cpus-set-to-double-notebook-pc-market-share-by-2027">https://www.tomshardware.com/news/arm-based-cpus-set-to-double-notebook-pc-market-share-by-2027</a>. For data centers, see Mark Liu, "x86 Server CPUs Remain Market Mainstream, 7nm Platform May Help AMD to Increase Market Share, Says TrendForce," TrendForce, November 28, 2018, <a href="https://www.trendforce.com/presscenter/news/20181128-10076.html">https://www.trendforce.com/presscenter/news/20181128-10076.html</a>; Stan Gibson, "AWS ARM-based chips could shift microprocessor market," TechTarget, April 28, 2020, <a href="https://www.techtarget.com/searchaws/feature/AWS-ARM-based-chips-could-shift-microprocessor-market">https://www.techtarget.com/searchaws/feature/AWS-ARM-based-chips-could-shift-microprocessor-market</a>. Prof. Posner claims that "Arm's ecosystem is protected by entry barriers." See Posner Report, ¶ 57. However, as I describe in detail in Section VIII.D.2 below, even in industries that are, in "theory," characterized by network effects and entry barriers, incumbent monopolists often face competition from entrants, as Arm's recent entry into data centers and PCs illustrates.

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 350 of 616 PageID #:

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Arm's ISA or treated as competitive constraints outside of that market.<sup>177</sup> The bottom line is the same. The x86 and RISC-V ecosystems competitively constrain Arm.

74. In data centers, Prof. Posner acknowledges competition among chip suppliers using alternative ISAs. He reports that "Intel's x86 still dominates the data center sector a with [sic] roughly 84% share"<sup>178</sup> and acknowledges that "in some sectors, like data centers and compute [PCs], OEMs can still choose between using Intel chips under the x86 ISA and Arm-compliant chips." <sup>179</sup> However, as I discuss in Section VII.C, he fails to consider the implication of competition between chips that use x86 and RISC-V architecture on Arm's incentives to foreclose its customers of its ISA. Prof. Posner's failure to account for competitive pressure from the x86 and RISC-V ecosystems undermines the credibility of his analysis.

#### B. Arm's ISA Share Varies Significantly Across Chip Application Segments

- 75. Prof. Posner is non-committal and vague about whether he concludes that there is a single market for the supply of the Arm ISA as opposed to separate markets for different applications. Concerning the chip applications, he appears to define multiple markets because different applications have different requirements.<sup>180</sup>
- 76. Prof. Posner does not account for the fact that Arm's share varies significantly across application segments. Arm is very successful in smartphones, but it has a much lower share in other segments such as PCs, data centers, and IoT. The chart below shows that Arm estimates the current share of Arm-based technology for the "mobile applications" segment (i.e., smartphones)

<sup>&</sup>lt;sup>177</sup> For example, *see* Shapiro, Carl, "Vertical Mergers and Input Foreclosure Lessons from the AT&T/Time Warner Case," Review of Industrial Organization, 2021, Vol. 59, pp. 303–341 (at 306, "Readers who are accustomed to studying horizontal mergers may wonder where market definition and market shares fit into this framework. The short answer is that market shares are less informative for studying vertical mergers than they are for studying horizontal mergers, so using market shares as a screen does not work well." (emphasis in original)).

<sup>&</sup>lt;sup>178</sup> Posner Report, ¶ 64.

<sup>&</sup>lt;sup>179</sup> Posner Report, ¶ 58. Posner further acknowledges competition in those sectors, recognizing that "the Arm ISA is rapidly gaining share in some of those sectors, including data centers."

<sup>&</sup>lt;sup>180</sup> Posner Report, ¶ 12 ("Within the Arm ISA ecosystem, there are multiple SoC sectors because the OEMs demand different kinds of SoCs for their different computing products."), ¶¶ 60-61 ("As the requirements of each sector are unique, the SoCs are sector-specific. [...] In each sector, Qualcomm faces varying degrees of competition from other chip makers.").

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

to be nearly 100%.<sup>181</sup> Excluding "Other Mobile" applications, <sup>182</sup> Arm's average share across other segments is 37%, <sup>183</sup> ranging from 15% in "Other Infrastructure" to 50% in "IoT & Embedded." <sup>184</sup> Smartphones and "Other Mobile" segments, where Arm has a share in excess of 50%, represent only 24% of all of Arm's segments ("Total Opportunity").

#### Royalty: Gaining Share in a Massive Market



<sup>&</sup>lt;sup>181</sup> "Arm Holdings plc, Q1 FYE26 Investor Presentation," Arm Holdings, July 30, 2025, p. 11, <a href="https://investors.arm.com/static-files/dae25601-3e5a-4d40-b9f5-e0149989e553">https://investors.arm.com/static-files/dae25601-3e5a-4d40-b9f5-e0149989e553</a>. For a definition of the various segments, see Arm 2025 Form 20-F, pp. 59-61.

<sup>&</sup>lt;sup>182</sup> Arm explained that "mobile phones contain many chips beyond the main applications processor, including the modem, Wi-Fi, Bluetooth and NFC connectivity chips, GPS chips, touchscreen controllers, power management chips, camera chips, audio chips and more, which we refer to collectively as the 'other mobile chips market." Arm 2025 Form 20-F, p. 60.

<sup>&</sup>lt;sup>183</sup> This average share is weighed by dollars.

<sup>&</sup>lt;sup>184</sup> Including "Other Mobile," Arm's average share across all segments other than smartphones is 40%. Concerning definitions: "Other Infrastructure refers to the technological components and systems that support various aspects of computing, networking, and data processing and include chips deployed into HPC systems, enterprise servers, and edge networking equipment," and "[t]he industrial IoT and embedded semiconductor market includes chips used by a wide range of goods, including washing machines, thermostats, digital cameras, drones, sensors, surveillance cameras, manufacturing equipment, robotics, electric motor controllers and city infrastructure and building management equipment." Arm 2025 Form 20-F, p. 60.

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 352 of 616 PageID #:

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

- 77. Prof. Posner notes that the "Arm ISA is rapidly gaining share in certain sectors, including data centers." Such growth reflects competitive success. Arm is not being handed market share by competitors such as Intel's x86; instead Arm is gaining share through sustained R&D investment and innovation by Arm and its partners. As I discuss in Section VIII.D.1, Arm invests a larger share of its revenue in R&D than either Qualcomm or Intel. Furthermore, Prof. Posner does not explain why Arm's growth in these applications would not put more pressure on rivals to innovate in seeking to preserve their sales, and why Arm's growth would thus not be procompetitive.
- 78. In summary, Prof. Posner's analysis rests on an incomplete and speculative framework that ignores competitive constraints due to OEM customers being able to choose among chips that rely on different ISA ecosystems. He does not adequately address the significant variation in Arm's market share across application segments, nor does he explain how Arm's competitive gains—particularly in areas like data centers—reflect innovation and investment rather than market power. By overlooking these dynamics, Prof. Posner fails to account for the procompetitive implications of Arm's growth and the ongoing pressure it places on rivals to innovate, which undermines any suggestion of dominance or lack of competition in the broader ISA landscape.

#### VI. Prof. Posner and Dr. Kennedy Provide No Evidence that Qualcomm Has Suffered Harm from Arm's Alleged Anticompetitive Conduct

79. Prof. Posner claims that Qualcomm was harmed in various ways by Arm's conduct. 187 The SAC states that, as a result of Arm's "unlawful and unfair business acts and practices," Qualcomm

<sup>&</sup>lt;sup>185</sup> Posner Report, ¶ 58.

<sup>&</sup>lt;sup>186</sup> ARM\_00118635 at '641 (April 2020 internal Arm presentation discussing that it has "proactively increased its R&D investments to capture market share in new markets such as Servers, Cloud & Edge, Networking, AI/ML; Automotive, IoT, etc.") and ARM\_01282304 at '314 (a 2018 Arm presentation reporting R&D as a percentage of revenue going back to 2005 and showing an increase in 2016-2017 compared to prior years.).

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 353 of 616 PageID #: 26846

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

"has suffered or faces the threat of loss of profits, customers, and potential customers" and "has lost money or property as a result of Arm's unfair competition, including by losing business opportunities that would have been awarded to it absent Arm's conduct." 188

80. Neither Prof. Posner nor Dr. Kennedy provide any supporting evidence of lost business opportunities. Prof. Posner claims that, due to Arm's conduct, "Qualcomm *may* [...] find it difficult to believe, or to convince its customers, that it can continue to rely on Arm to comply with the licenses in good faith." His statement is a theoretical possibility for which he provides no evidence. Dr. Kennedy purports to estimate Qualcomm's lost profit from a change in the Qualcomm

However, Dr. Kennedy merely compares the term sheets before and after the Breach Letter and, as he himself acknowledges, his analysis does not causally link the changes in the terms to Arm's allegedly anticompetitive conduct.<sup>191</sup>

81. In this Section, I show that there is no real-world compelling evidence of harm to Qualcomm. Qualcomm has continued to grow and experience strong financial performance since its acquisition of Nuvia in March 2021 and public awareness of the lawsuit in August 2022, and it forecasts strong financial performance going forward. As a general matter, to the extent possible, economists determine damages based on a comparison between the actual world with the alleged anticompetitive conduct and the counterfactual or "but-for" world without that conduct. While my analysis tracks the evolution of Qualcomm's profitability over time and does not construct a but-for scenario, it does provide real world evidence that, contrary to Prof. Posner's claim that Arm's conduct would cause Qualcomm to be "badly wounded," Qualcomm's profitability

<sup>&</sup>lt;sup>188</sup> SAC, ¶¶ 210-211.

<sup>&</sup>lt;sup>189</sup> Posner Report, ¶ 65 (emphasis added).

<sup>&</sup>lt;sup>190</sup> Kennedy Report, ¶¶ 130-137.

<sup>&</sup>lt;sup>191</sup> Kennedy Report, footnote 317

<sup>&</sup>lt;sup>192</sup> Damages reflect the reduction in profits caused by the alleged anticompetitive conduct.

<sup>&</sup>lt;sup>193</sup> Posner Report, ¶ 78.

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 354 of 616 PageID #: 26847

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

improved. In these situations, Plaintiff experts often raise the possibility that the Plaintiff's profitability would have improved even more in the absence of the allegedly anticompetitive conduct (and that thus the Plaintiff was harmed even while its performance improved over time). In this case, however, neither Prof. Posner nor Dr. Kennedy construct a but-for world or provide any evidence based on market prices or terms and conditions for an actual license (as opposed to a term sheet that merely reflects Qualcomm's aspirations at a certain point in the negotiating process). 194

#### A. Qualcomm's Strong Financial Performance Since the Acquisition of Nuvia

- 82. Prof. Posner opines that Arm has engaged in a "broad [] scheme" to "undermine Qualcomm's ability" to compete within the Arm ISA ecosystem. <sup>195</sup> He claims that Arm is "obstructing" Qualcomm's ability to design custom cores under its ALA, thereby coercing Qualcomm into relying on Arm's OTS cores licensed under the TLA, which carry higher royalty rates and margins. He further alleges that, if successful, Arm will be able to "extend [] its dominance over the Arm ISA ecosystem, leaving it with not only control of the ISA itself and the design and sale of its own cores, but also with a significant role in designing and selling SoCs." <sup>196</sup> This claim is unsupported by evidence.
- 83. Qualcomm has grown dramatically since it acquired Nuvia in March 2021. Qualcomm's total revenue increased more than 38% from Q1 2021 to Q1 2025, while its operating profit increased by 44%, as shown in **Exhibit 1** and **Exhibit 2** below. In the QCT segment, Qualcomm's

<sup>&</sup>lt;sup>194</sup> To be clear, I do acknowledge that a number of factors impact how Qualcomm's profits evolve over time, and that thus my analysis does not isolate the effect of Arm's conduct. However, the lack of any evidence of harm to Qualcomm in the data I do analyze contrasts with the lack of any compelling, real-world evidence in Prof. Posner and Dr. Kennedy's analyses.

<sup>&</sup>lt;sup>195</sup> Posner Report,  $\P$ ¶ 13-14.

<sup>&</sup>lt;sup>196</sup> Posner Report, ¶¶ 13-14, 17, 71.

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 355 of 616 PageID #: 26848

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

revenue increased over 50% and its net income before taxes increased 80% over the same time period. 197

Exhibit 1: Qualcomm Revenue (USD in billions)<sup>198</sup>

By Business Segment, 2019-2025Q2

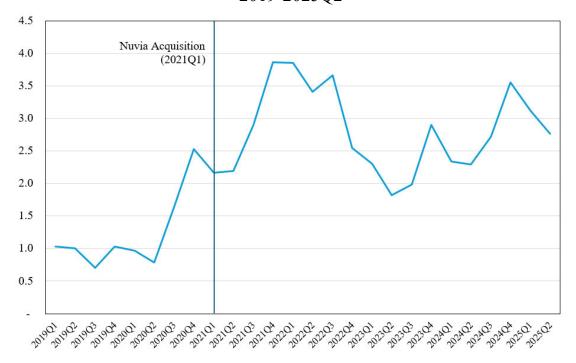


<sup>&</sup>lt;sup>197</sup> Qualcomm Financial Summary downloaded from LSEG Data & Analytics.

<sup>&</sup>lt;sup>198</sup> Note: Excludes a *de minimis* amount of Qualcomm Strategic Initiatives (QSI) revenue and other revenue. Source: Qualcomm Financial Summary downloaded from LSEG Data & Analytics.

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Exhibit 2: Qualcomm Operating Profit (USD in billions)<sup>199</sup> 2019-2025Q2



84. Moreover, over the past two years, Qualcomm repeatedly and publicly touted its robust current and forecasted financial performance, particularly in its QCT segment (which includes its chip business). In a series of recent earnings calls, Qualcomm's senior executives described the

<sup>&</sup>lt;sup>199</sup> Source: Qualcomm Financial Summary downloaded from LSEG Data & Analytics.

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 357 of 616 PageID #: 26850

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

company's strong financials.<sup>200,201,202,203</sup> To cite just one example, in its February 2025 earnings call, Cristiano Amon, Qualcomm's President and Chief Executive Officer, said:

In fiscal Q1, we delivered record revenues of \$11.7 billion in non-GAAP earnings per share of \$3.41. Our chipset business achieved record revenues of \$10.1 billion, the first

<sup>200</sup> "Qualcomm Investor Day 2024: IoT and Automotive Diversification Update," Qualcomm, November 19, 2024, pp. 1, 23-24, https://www.qualcomm.com/content/dam/qcomm-martech/dmassets/images/company/company/events/investor-day-2024/OCOM-Investor-Day-2024-transcript.pdf. (Akash Palkhiwala, Qualcomm's Chief Financial Officer and Chief Operating Officer, described Qualcomm's strong growth over the past five years: "So we picked fiscal [year] [20]19 as the starting point so we can get rid of the Covid. Complexity and the ups and downs inventory, build bleed that it introduced. So over the last five years, how have we done our revenues have doubled EPs has tripled very strong performance. This performance validates our strategy and it provides a strong foundation to accelerate growth and diversification. From this point on. Now if you look at Oct [sic], our chip business, for the same metrics, we've more than doubled revenue. There and we've increased our operating margins from 15% to 29%, very closely aligned with the long term target of 30% that we've set. We also saw very strong growth in our revenue streams, 31% CAGR in automotive, double digit growth in handset and IoT, as well in handsets. If you abstract out the share gain at Apple and look at Android, we grew low double digits in Android as well. So very strong performance across the board, across our portfolio." He similarly described Qualcomm's strong growth in fiscal year 2024 (i.e., October 2023 through September 2024): "So fiscal [year] 24, we delivered very strong results, very strong execution. Revenue grew by 9%, EPs grew by 21%. And that shows the operating leverage in the business.").

<sup>201</sup> "Q1 2025 Qualcomm Inc. Earnings Call," Qualcomm, February 5, 2025, pp. 5-6, <a href="https://s204.q4cdn.com/645488518/files/doc\_events/2025/Feb/05/QCOM\_Q1FY25EC\_Transcript\_2-5-24.pdf">https://s204.q4cdn.com/645488518/files/doc\_events/2025/Feb/05/QCOM\_Q1FY25EC\_Transcript\_2-5-24.pdf</a>. (Mr. Palkhiwala stated: "We are pleased to announce revenues of \$11.7 billion and non-GAAP EPS of \$3.41, both of which were above the high end of our guidance. [...] QCT delivered record revenues of \$10.1 billion, which was above the high end of our guidance on outperformance across Android handsets, IoT, and automotive. QCT handset revenues were a record \$7.6 billion with 13% year-over-year growth, reflecting higher volume and content increase in Android premium tier, driven by industry-leading performance of our newly launched Snapdragon 8 Elite platform. [...] Lastly, we returned \$2.7 billion to stockholders, including \$1.8 billion in stock repurchases and \$942 million in dividends. [...] In closing, we are very pleased with our strong first-quarter results with new records across the following metrics: total company revenue, non-GAAP EPS, QCT revenues, QCT Handset revenues, and QCT Automotive revenues.").

<sup>202</sup> "Q2 2025 Qualcomm Inc. Earnings Call," Qualcomm, April 30, 2025, pp. 2-3 and 5, <a href="https://s204.q4cdn.com/645488518/files/doc\_events/2025/Apr/30/QCOM\_Q2FY25EC\_Transcript\_5-1-25.pdf">https://s204.q4cdn.com/645488518/files/doc\_events/2025/Apr/30/QCOM\_Q2FY25EC\_Transcript\_5-1-25.pdf</a>. (Mr. Amon stated: "In fiscal Q2, we delivered non-GAAP revenues of \$10.8 billion and non-GAAP earnings per share of \$2.85. Revenues of \$9.5 billion from our chipset business were driven by strength across handsets, automotive and IoT, all exceeding revenue expectations. Automotive and IoT revenues increased 59% and 27% year-over-year, respectively. Licensing business revenues were \$1.3 billion. Demand for our industry-leading platforms continues to expand as high-performance connectivity and processing at the edge are increasingly important, and AI becomes more pervasive across industries. We have the industry's broadest product and IP portfolio, a strong track record of establishing a technology leadership position in every industry we enter and a clear vision for the future." Mr. Palkhiwala further described Qualcomm's strong overall financial performance: "In closing, we are very pleased with our strong results in the first half of fiscal '25, with revenue and non-GAAP EPS growth of 17% and 21%, respectively, versus a year ago period.").

203 "Q3 2025 Qualcomm Inc. Earnings Call," Qualcomm, July 30, 2025, p. 5, 9, <a href="https://s204.q4cdn.com/645488518/files/doc\_events/2025/Jul/30/Q3FY25-Earnings-Call-Transcript\_7-30-25\_Final.pdf">https://s204.q4cdn.com/645488518/files/doc\_events/2025/Jul/30/Q3FY25-Earnings-Call-Transcript\_7-30-25\_Final.pdf</a> (Mr. Palkhiwala stated: "QCT Handset revenues increased 7% year over year to \$6.3 billion, reflecting

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 358 of 616 PageID #: 26851

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

\$10 billion quarter for QCT, including record quarterly Handset and Automotive revenues. Licensing business revenues were \$1.5 billion. We're off to a great start in fiscal '25. Our mobile roadmap is the strongest in our history, with exceptional traction for Snapdragon in premium tier handsets, and we are delivering growth across our diversification initiatives. This quarter, Automotive and IoT revenues grew 61% year over year and 36% year over year, respectively. We're committed to achieving \$22 billion on non-handset revenues by 2029 as outlined in our 2024 Investor Day. <sup>204</sup>

85. Over the longer term, Qualcomm forecasts that its IoT (i.e., PCs, mixed and virtual reality, industrial, networking, and tablets, headphones, and smartwatches)<sup>205</sup> revenue will increase from \$5.4 billion to \$14.0 billion by fiscal year 2029, an increase of over 150%.<sup>206</sup> For automotive,

strong demand for premium tier handsets, enabled by our Snapdragon 8 Elite platform. QCT IoT revenues grew 24% year over year to \$1.7 billion. The outperformance, relative to expectations, was driven by increased demand for our Snapdragon AR1 chipset, the clear industry leader in emerging AI smart glasses category. We delivered another record quarter in QCT Automotive with revenues of \$984 million, an increase of 21% year over year, driven by content growth in new vehicle launches with our Snapdragon Digital Chassis platform. [...] [W]e are very pleased with our performance in fiscal '25 [...] [Y]ou should think of this as a very strong quarter for us." Looking forward to the next quarter (Q3 2025), Mr. Palkhiwala forecasted strong Qualcomm growth in the QCT segment, stating: "We are forecasting fiscal '25 to be the second consecutive year of greater than 15% year over year growth in total QCT non-Apple revenues. We anticipate QCT IoT and Automotive revenues to grow by approximately 20% and 35%, respectively, reinforcing our confidence in achieving our fiscal '29 target of \$22 billion in combined Automotive and IoT revenues. We are pleased to see our customer relationships strengthening[.]"). Similarly, see also "Q2 2025 Qualcomm Inc. Earnings Call," Qualcomm, April 30, 2025, p. 5, https://s204.q4cdn.com/645488518/files/doc\_events/2025/Apr/30/QCOM\_Q2FY25EC\_Transcript\_5-1-25.pdf.

<sup>&</sup>lt;sup>204</sup> "Q1 2025 Qualcomm Inc. Earnings Call," Qualcomm, February 5, 2025, pp. 3 and 5, <a href="https://s204.q4cdn.com/645488518/files/doc\_events/2025/Feb/05/QCOM\_Q1FY25EC\_Transcript\_2-5-24.pdf">https://s204.q4cdn.com/645488518/files/doc\_events/2025/Feb/05/QCOM\_Q1FY25EC\_Transcript\_2-5-24.pdf</a>. (Mr. Amon also discussed the strong performance of Qualcomm's licensing business: "Finally, we remain very pleased with the execution of our QTL business in recent years, and we're well positioned to maintain fiscal '24 revenue scale going forward. Over the past year, we have extended key agreements with major OEMs, and we're poised to shortly execute new long-term license agreements with two additional large OEMs.").

<sup>&</sup>lt;sup>205</sup> Qualcomm defines IoT as follows: "In IoT, our inventions have helped power growth in industries and applications such as consumer (including personal computers (PCs), tablets, voice and music and extended reality (XR)), edge networking (including mobile broadband and wireless access points) and industrial (including handhelds, retail, tracking and logistics and utilities)." *See* Qualcomm 2024 Form 10-K, p. 6.

<sup>&</sup>lt;sup>206</sup> Akash Palkhiwala, "Qualcomm Investor Day 2024 Financial Update Presentation," Qualcomm, November 19, 2024, p. 20, <a href="https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/images/company/company/events/investor-day-2024/Qualcomm-Investor-Day-2024">https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/images/company/company/events/investor-day-2024/Qualcomm-Investor-Day-2024</a> Akash FinancialUpdate.pdf.

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 359 of 616 PageID #: 26852

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Qualcomm is forecasting "strong revenue growth" with revenue increasing from \$2.9 billion to \$8.0 billion by fiscal year 2029, an increase of approximately 175%.<sup>207</sup>

86. Prof. Posner and the SAC do not discuss this real-world evidence. Qualcomm's success in the marketplace undermines its claim that it was "harmed" by Arm's communications with its customers.<sup>208</sup> It also casts doubt on Qualcomm's claim that it suffered harm due to Arm's alleged failure to provide certain "deliverables" that Qualcomm was allegedly entitled to receive.<sup>209</sup> Even

<sup>&</sup>lt;sup>207</sup> Akash Palkhiwala, "Qualcomm Investor Day 2024 Financial Update Presentation," Qualcomm, November 19, 2024, p. 12, <a href="https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/images/company/company/events/investor-day-2024/Qualcomm-Investor-Day-2024 Akash FinancialUpdate.pdf">https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/images/company/company/events/investor-day-2024/Qualcomm-Investor-Day-2024 Akash FinancialUpdate.pdf</a>. Qualcomm does not appear to have provided long-term forecasts for handsets. Apple is transitioning to its own in-house modem, which may lead to a reduction in Qualcomm revenue, although in its latest earnings call Qualcomm still forecasted growing handset revenue. See "Q3 2025 Qualcomm Inc. Earnings Call," Qualcomm, July 30, 2025, p. 5, <a href="https://s204.q4cdn.com/645488518/files/doc\_events/2025/Jul/30/Q3FY25-Earnings-Call-Transcript 7-30-25 Final.pdf">https://s204.q4cdn.com/645488518/files/doc\_events/2025/Jul/30/Q3FY25-Earnings-Call-Transcript 7-30-25 Final.pdf</a> ("We anticipate QCT Handset revenues to grow approximately 5% sequentially, consistent with typical historical trends, despite lower Apple revenues."). See Rashika Singh, "Qualcomm shares slide as Apple modem shift, tariffs raise growth concerns," Yahoo Finance, July 31, 2025, <a href="https://finance.yahoo.com/news/qualcomm-shares-slide-apple-modem-085843911.html">https://finance.yahoo.com/news/qualcomm-shares-slide-apple-modem-085843911.html</a> ("The San Diego-based chip supplier warned investors that Apple's move to depend on in-house modems, starting with the February launch of the iPhone 16e would hit future chip revenue.").

<sup>&</sup>lt;sup>208</sup> SAC, ¶ 34.

<sup>&</sup>lt;sup>209</sup> See SAC, ¶ 184 ("Arm withheld deliverables that it was required to provide Qualcomm under the QC ALA") and

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 360 of 616 PageID #: 26853

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

if those claims were true, there is no evidence that Qualcomm's performance and market success were adversely affected in meaningful ways.<sup>210</sup>

#### **B.** No Evidence of Lost Business

87. The SAC claims that Arm's communications regarding Qualcomm, particularly the October 2024 Breach Letter, have "harmed Qualcomm." Specifically, Qualcomm claims that "important Qualcomm customers delayed entering into new (or renewing existing) contracts with Qualcomm or have insisted that Qualcomm provide them with additional commitments regarding its ability to deliver licensed products." <sup>212</sup>

88. Prof. Posner provides no evidence to support Qualcomm's claims and ignores the fact that there is no evidence of lost business. As I discuss below, Qualcomm continues to expand business with key customers despite what Qualcomm characterizes as a "misinformation campaign."<sup>214</sup>



<sup>&</sup>lt;sup>211</sup> SAC, ¶ 34.

<sup>&</sup>lt;sup>212</sup> SAC, ¶ 34. Prof. Posner also claims that "Arm conducted a misinformation campaign designed to undermine customers' confidence in Qualcomm" and that "[t]he campaign included leaking the notice letter that Arm sent to Qualcomm and sending 'confusing' and 'misleading' messages to customers of Arm and Qualcomm that suggested that they faced legal jeopardy if they used Qualcomm products." Posner Report, ¶¶ 65-66.

<sup>&</sup>lt;sup>213</sup> "Plaintiffs' Supplemental Responses and Objections to Defendant's First Set of Interrogatories (Nos. 1–9)," July 11, 2025, Qualcomm, p. 14.

<sup>&</sup>lt;sup>214</sup> Posner Report, ¶ 65.

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 361 of 616 PageID #: 26854

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

1.	
89.	
Prof. Posner also claims that Arm "leaked the notice letter" and "interfered	with
Qualcomm's relationship with its customers" (though he does not specifically discuss	any
purported harm to Qualcomm's relationship with	
90.	
91. Even though "insisted" on additional reassurances, <sup>219</sup> this type of "reassura	
to customers and investors is common and therefore is not the type of evidence that economic	
consider to form conclusions on anticompetitive harm. For example, contracts often inc	
indemnification provisions to protect parties against supply disruptions, disputes over assignment of IP rights, and other sources of uncertainty that are endemic to most businessignment.	
assignment of it rights, and other sources of uncertainty that are endemic to most ousi	11055
<sup>215</sup> Referred to as the "Smartphone Company" in the SAC.	
<sup>216</sup> SAC, ¶¶ 158, 195.	
<sup>217</sup> Posner Report, ¶ 45.	

<sup>219</sup> SAC, ¶ 158.

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 362 of 616 PageID #: 26855

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

endeavors.<sup>220</sup> These terms are a widespread and completely unremarkable way for a supplier to share risk with its customers.

92.	More generally, negotiations between business partners involve constant back-and-forth
comm	unications, exchanges of requests and concessions, expected and unexpected challenges and
roadb	locks, and can be affected by internal frictions and changing external factors. <sup>221</sup> This process
can la	st for many months, and with that context in mind, there is nothing unusual about the alleged
"delay	ys" that Qualcomm perceived in its negotiation with
93.	
93.	
	_
220	
221 For	example,
For	example,
range of tension parties. Addition	See also "Your Negotiation Challenges," s, June 17, 2025, <a href="https://www.karrass.com/blog/your-negotiation-challenges">https://www.karrass.com/blog/your-negotiation-challenges</a> ("Negotiation presents a wide of challenges that can derail even the most prepared professionals. From misaligned goals to emotional each situation brings unique hurdles. One common issue in negotiation is conflicting objectives between a these misalignments can create impasses that feel insurmountable without a clear strategy to resolve them. It is made to confusion and delays in decision-grant power imbalances can distort the negotiation process. When one party feels they hold all the see, they may pressure the other side into agreements that aren't sustainable.").
223	
224	

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 363 of 616 PageID #: 26856

94. Additionally, in an internal Qualcomm chat in February 2024, Christopher Patrick, Sen
Vice President and General Manager of the Mobile and Wearables Business at Qualcom
lamented that it is
2.
95. Qualcomm also points to as a customer whose relationship with Qualcomm v
harmed by Arm's conduct. Qualcomm claims that, as a result of Arm's October 2024 Brea
226 0 0224 7234 0440007 4000
<sup>226</sup> QCVARM_0463837 at '839.

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 364 of 616 PageID #: 26857

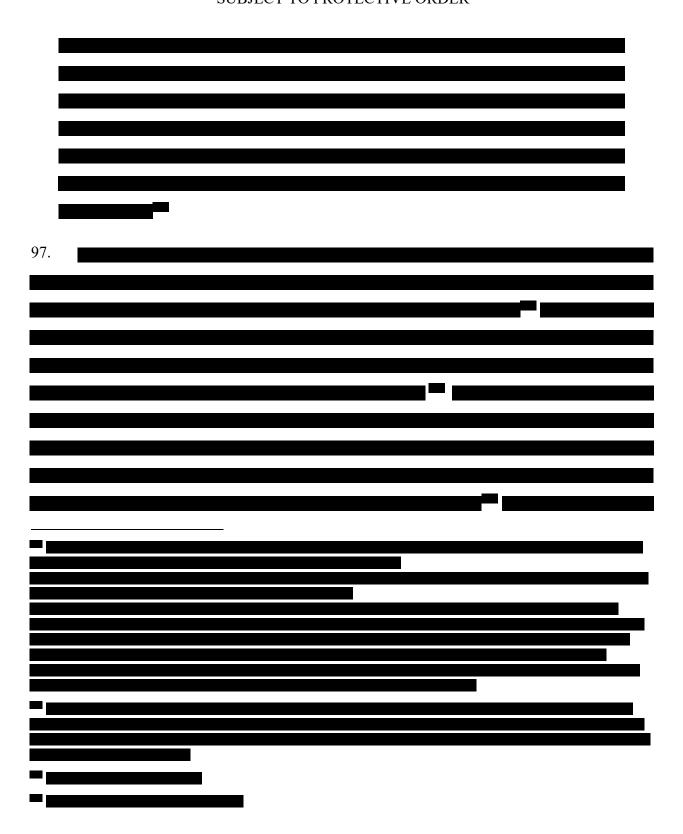
### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Letter	r,
Prof.	Posner makes similar claims. <sup>229</sup>
96.	However, evidence shows that
to desi publish custom	C, ¶ 159 (discussing "a potential customer (the 'AI and Ecosystem Company') that currently relies on a stitor's chips for its substantial processing needs was in the process of reaching an agreement with Qualcomm ign a custom chip for the customer based on Qualcomm's custom-built CPU. After the Breach Letter was hed, the customer delayed finalizing a termsheet for an agreement under which Qualcomm would design that a chip and requested inclusion of language related to Qualcomm's chip development capabilities. [] As a of the uncertainty stemming from Arm's assertion and the leak of the Breach Letter, there was a delay in

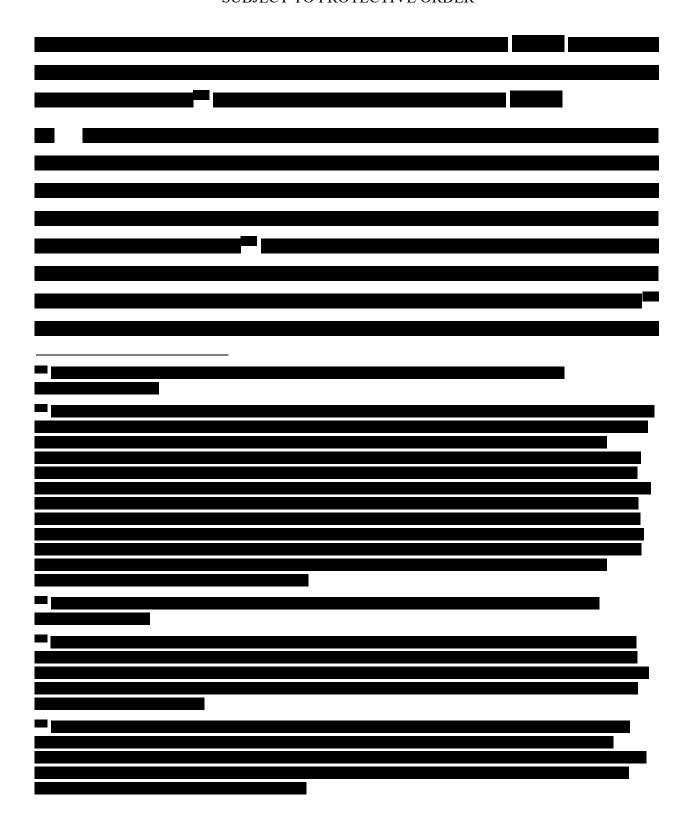
Qualcomm's ability to finalize this valuable opportunity.").

<sup>&</sup>lt;sup>229</sup> Posner Report,  $\P$  45 (claiming that Arm "leaked the notice letter" and "interfered with Qualcomm's relationship with its customers.").

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 365 of 616 PageID #: 26858



#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 366 of 616 PageID #: 26859



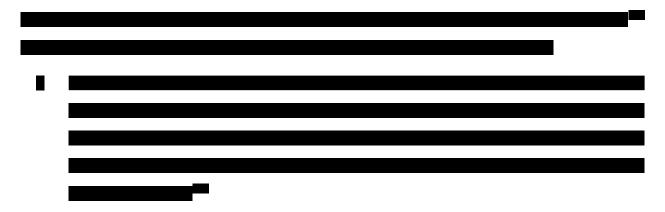
#### 

Complex negotiations often occur over many
·
months, and a protracted negotiation is not evidence of anticompetitive effects. <sup>241</sup> A brief delay is
unlikely to be a material disruption to the business relationship. <sup>242</sup> In any case, even if a delay did
occur because of the Breach Letter, that would not imply that Arm's conduct was anticompetitive.
Firms are routinely harmed by the actions of their competitors or suppliers when, for example,
competitors reduce prices or introduce an improved product or when suppliers delay negotiations
or raise prices. Harm to a competitor does not automatically translate into harm to competition. <sup>243</sup>
100.
100.
<sup>240</sup> In the ordinary course of business, delays in negotiations can occur for various reasons.
241
242

<sup>&</sup>lt;sup>243</sup> See, for example, U.S. Department of Justice & The Federal Trade Commission, "Vertical Merger Guidelines," June 30, 2020 (now withdrawn), <a href="https://www.ftc.gov/system/files/documents/reports/us-department-justice-federal-">https://www.ftc.gov/system/files/documents/reports/us-department-justice-federal-</a>

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 368 of 616 PageID #: 26861

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER



ii. Second, Qualcomm has provided no evidence that the October 2024 Breach Letter (which Arm withdrew on January 8, 2025)<sup>246</sup> is the only factor, or even a contributing factor, for

<u>trade-commission-vertical-merger-guidelines/vertical\_merger\_guidelines\_6-30-20.pdf</u>, ("The Agencies are concerned with harm to competition, not to competitors."). This basic and important economic principle has been adopted by the Courts. For example, the DC Circuit has stated that an antitrust plaintiff "must demonstrate that the monopolist's conduct harmed competition, not just a competitor." *United States v. Microsoft Corp.*, 253 F.3d 59 (2001).



<sup>246</sup> See Simon Sharwood, "Arm gives up on killing off Qualcomm's vital chip license," The Register, February 6, 2025, https://www.theregister.com/2025/02/06/arm\_qualcomm\_nuvia/ ("Arm has given up on terminating one of its key licenses with Qualcomm, leaving the latter free to continue producing homegrown Arm-compatible chips for PCs, phones, and servers. [...] During Qualcomm's Q1 2025 earnings conference call with Wall Street, CEO Cristiano Amon confirmed Arm 'has no current plan to terminate the Qualcomm Architecture License Agreement. We're excited to continue to develop performance leading, world-class products that benefit consumers worldwide that include our incredible Oryon custom CPUs.""). See also Qualcomm Incorporated, Form 10-Q, for the quarterly period ended December 29, 2024, p. 13, https://d18rn0p25nwr6d.cloudfront.net/CIK-0000804328/1b687286-85e9-44e6-a579-d19d089eacfb.pdf ("On January 8, 2025, Arm notified us that it was withdrawing its October 22, 2024 notice of breach and indicated that it has no current plan to terminate the Qualcomm ALA, while serving its rights pending the outcome of the ongoing litigation."). Spencer Collins, a member of Arm's executive committee, indicated that Arm issued the letter because "we felt it was appropriate to send a notice to Qualcomm, making it clear that we respect – whilst we don't agree with the outcome from the court and the jury verdict, we respect it. And on that basis, we wanted to retract the breach notification and also make it clear that we have no intention to terminate the Qualcomm ALA." Deposition of Spencer Collins, June 30, 2025 (hereinafter "Collins (Arm) Deposition"), 111:22-112:7.

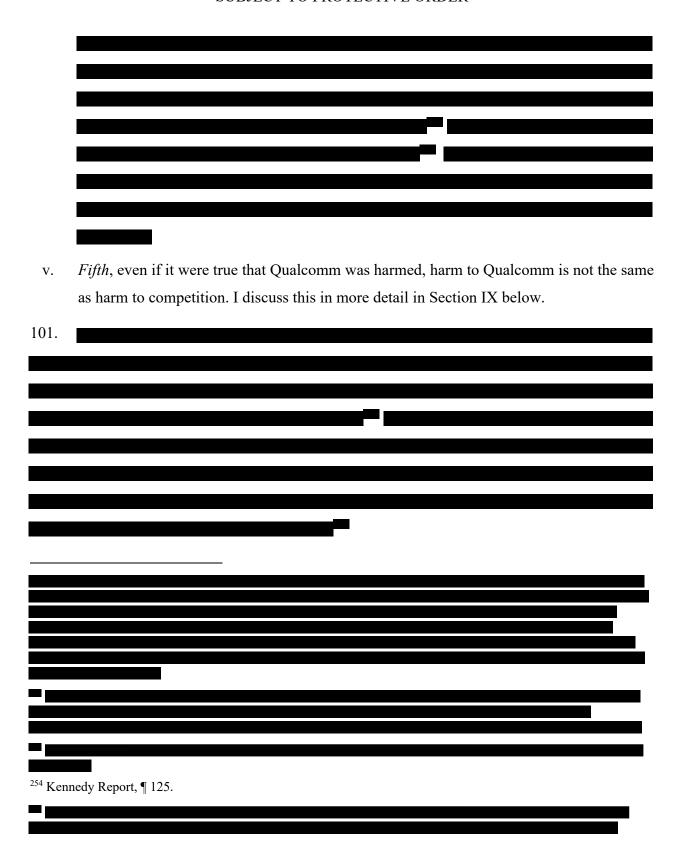
#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 369 of 616 PageID #: 26862

#### 26862 HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

the change in terms. Negotiations are a sequence of give and take, and proposed terms are modified in subsequent counteroffers.<sup>247</sup>

iii.	Third, the Arm v. Qualcomm litigation, which was filed on August 31, 2022, was public
	and widely discussed in the press. <sup>248</sup> Qualcomm also recognized that Arm's October 2024
	Breach Letter was not "new news." In Arm v. Qualcomm, Qualcomm's counsel
	acknowledged during the November 20, 2024 pre-trial conference that Arm's allegation of
	breach of the Qualcomm ALA has been part of the case "starting at the very beginning"
	and that "the letter on October 22nd [was] actually not new news in the sense of alleging
	these breaches." <sup>249</sup>
iv.	Fourth, terms less favorable to Qualcomm could simply be due to
247	
<sup>248</sup> See,	for example, Stephen Nellis and Jane Lee, "Arm sues Qualcomm, aiming to unwind Qualcomm's \$1.4 bln
	burchase," Reuters, September 1, 2022, <a href="https://www.reuters.com/legal/chips-tech-firm-arm-sues-qualcomm-preach-license-trademark-2022-08-31/">https://www.reuters.com/legal/chips-tech-firm-arm-sues-qualcomm-preach-license-trademark-2022-08-31/</a> .
in respo The let squarel	Arm v. Qualcomm, No. 22-1146 (MN), Pretrial Conference Transcript, November 20, 2024, pp. 13, 14 ("And onse to that, there have been repeated allegations that the Qualcomm ALA has been breached by Qualcomm. ter on October 22nd is actually not new news in the sense of alleging these breaches. It has been in the case y and we anticipate that it is going to be raised by ARM in response to the arguments that we have regarding that our products are licensed.").

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 370 of 616 PageID #: 26863



#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 371 of 616 PageID #: 26864

102.
His
calculations are unreliable for determining damages because they cannot isolate the effect of Arm's
alleged conduct from other potential explanatory factors. He conjectures, without support, that
changes in contractual terms between the first (unaccepted) proposed term sheet and the last term
sheet are due to the Breach Letter alone, rather than the normal evolution of offers and
counteroffers in the context of complex negotiations. <sup>257</sup> In reality, changes in contractual terms are
a normal part of negotiations and an initial proposed term sheet is often not the final accepted term
sheet. <sup>258</sup> For example, the negotiation between Arm and Nuvia had multiple turns of offers and
counteroffers, and the fact that the final term sheet was not the same as the initial is not evidence
of harm, as none existed or is alleged in the case of the Nuvia negotiation. <sup>259</sup>
103. In fact, even though Qualcomm both parties
understood from the outset that detailed negotiations would follow—and indeed, they continued
well beyond the trial decision. <sup>260</sup>
256 V
<sup>256</sup> Kennedy Report, ¶ 135. <sup>257</sup> Kennedy Report, ¶ 132.
<sup>258</sup> See, for example, "The Value of Making Concessions In Negotiation," Red Bear, November 12, 2024, <a href="https://www.redbearnegotiation.com/blog/making-concessions-in-negotiation">https://www.redbearnegotiation.com/blog/making-concessions-in-negotiation</a> ("Effective negotiation requires a strategic balance of give and take if you want to achieve a successful outcome for two or more parties. In other words, you need to make a concession every once in a while. Effective concessions are built on strategic planning, and a well-executed concession strategy can significantly impact the outcome of a deal, bringing you closer to a mutually beneficial agreement."); Rajeev Dhir, "Negotiation: Stages and Strategies," Investopedia, June 04, 2024, <a href="https://www.investopedia.com/terms/n/negotiation.asp">https://www.investopedia.com/terms/n/negotiation.asp</a> ("Negotiation is a strategic discussion intended to resolve an issue that both parties find acceptable. Negotiations involve give and take, where one or both parties will usually need to make some concessions.").
260

#### 

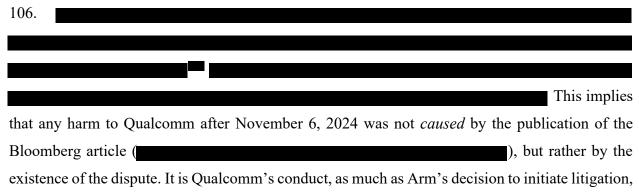
3. Qualcomm's Broader Customer Base Was Not Harmed
104. Qualcomm claims that the <i>Bloomberg</i> article reporting Arm's October 2024 Breach Letter
to Qualcomm, <sup>264</sup> hampered Qualcomm's ability to negotiate business opportunities
Prof. Posner also claims that Arm sent "confusing and
'misleading' messages to customers of Arm and Qualcomm that suggested that they faced legal
jeopardy if they used Qualcomm products."266
105. Prof. Posner conflates transparency with anticompetitive intent. It is rational for users of a
technology under litigation to collect more information that may help them assess and manage
261
<sup>262</sup> The Bloomberg article discussing the Breach Letter was published on October 22, 2024 (Ian King, "Arm to Scrap Qualcomm Chip Design License in Feud Escalation," Bloomberg, October 22, 2024 (updated on October 23, 2024), <a href="https://www.bloomberg.com/news/articles/2024-10-23/arm-to-cancel-qualcomm-chip-design-license-in-escalation-of-feud">https://www.bloomberg.com/news/articles/2024-10-23/arm-to-cancel-qualcomm-chip-design-license-in-escalation-of-feud</a> ) and
<sup>264</sup> Ian King, "Arm to Scrap Qualcomm Chip Design License in Feud Escalation," Bloomberg, October 22, 2024 (updated on October 23, 2024), <a href="https://www.bloomberg.com/news/articles/2024-10-23/arm-to-cancel-qualcomm-chip-design-license-in-escalation-of-feud">https://www.bloomberg.com/news/articles/2024-10-23/arm-to-cancel-qualcomm-chip-design-license-in-escalation-of-feud</a> .

<sup>&</sup>lt;sup>266</sup> Posner Report, ¶ 65.

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 373 of 616 PageID #: 26866

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

risks to their businesses. Qualcomm argues it was harmed because Arm disclosed the risk of a potential supply disruption to users of chips embedding Arm's technology. However, this disclosure stemmed from Arm's legitimate effort to resolve a contractual dispute through litigation. If firms faced antitrust liability simply for trying to exercise their contractual rights or protect their IP rights—on the basis that doing so might disadvantage a counterparty—it would create perverse incentives for counterparties to breach and infringe, ultimately diminishing the value of contracts, harming firms' incentives to cooperate, innovate, and create economic value. <sup>267,268</sup>



<sup>267</sup> The legal system attempts

<sup>&</sup>lt;sup>267</sup> The legal system attempts to root out "sham" litigation but reaffirms the value of litigations based on genuine disagreements. *See* Lianos, Ioannis and Pierre Regibeau, "'Vexatious', 'Sham' Litigation: When Can It Arise and How Can It Be Reduced?," The Antitrust Bulletin, 2017, Vol. 62, No. 4, pp. 2-4 ("The regulatory and judicial system is often the theatre of intense business conflict, sometimes resulting from 'genuine' disputes between the parties over the interpretation of the law, or the application of the law to the specific fact pattern, each of the parties seeking to secure governmental action in its favour but sometimes also, or uniquely, motivated by the motive of directly harming competitors. […] [I]n practice, the use of the regulatory and/or litigation process stays presumptively outside the scope of competition law, through the operation of some form of antitrust immunity, in both the US and in Europe. […] However, […] the immunity does not cover the abuse of such regulatory and litigation processes, when these are used for foreign purposes than those they have been put in place to serve at the first place. […] The key piece of evidence in identifying sham litigation is the absence of genuine interest in receiving judicial relief.").

<sup>&</sup>lt;sup>268</sup> For similar reasons, antitrust laws protect competition and the competitive process, but not individual rivals. Protecting rivals would create incentives to start litigations that ultimately reduce the incentive to compete and thus harm customers.

<sup>&</sup>lt;sup>269</sup> Mr. Richards also opines that Qualcomm was obligated to make this disclosure regardless of the publication of the Breach Letter's contents in the Bloomberg Article. Moreover, I understand that Mr. Richards opines that Qualcomm's public disclosures do not convey the significant or material harm resulting from the Breach Letter that Qualcomm alleges it suffered in the Second Amended Complaint. *See* Expert Report of Mr. Steven Richards, CPA, September 5, 2025. *See also* Qualcomm 2024 Form 10-K, pp. 13, F-24 (Qualcomm disclosed the Breach Letter in its Annual Report issued on November 6, 2024.).

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 374 of 616 PageID #: 26867

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

that led to the dispute, and for that reason it is improper for Prof. Posner to treat the litigation and successive communications as a form of anticompetitive conduct.

# VII. PROF. POSNER'S CLAIM THAT ARM HAS THE ABILITY AND INCENTIVE TO FORECLOSE QUALCOMM IS BASED ON AN INCOMPLETE ANALYSIS THAT IGNORES KEY FACTS AND IS UNTETHERED FROM SOUND ECONOMIC ANALYSIS

107. Prof. Posner claims to use a "standard framework for determining whether input foreclosure is anticompetitive," and purports to conduct an "ability/incentive framework" analysis. <sup>270</sup> In practice, Prof. Posner relies on a stylized model of vertical interaction that is designed to isolate specific effects from a vertical merger and does not fully capture marketplace realities. <sup>271</sup> For example, the model is static and does not account for dynamic effects such as Arm's loss of reputation from foreclosure and any increased incentive of Arm's customers to invest in or switch to an alternative ISA. As a matter of economics, these are real costs that Arm

<sup>&</sup>lt;sup>270</sup> Posner Report, ¶ 53.

<sup>&</sup>lt;sup>271</sup> Antitrust agencies typically use this framework as a starting point. However, agencies then conduct a fact intense investigation to verify what conclusions the evidence supports. In explaining "How to Use These Guidelines," the U.S. Department of Justice & The Federal Trade Commission 2023 Merger Guidelines explain, "When companies propose a merger that raises concerns under one or more Guidelines, the Agencies closely examine the evidence to determine if the facts are sufficient to infer that the effect of the merger may be to substantially lessen competition or to tend to create a monopoly (sometimes referred to as a "prima facie case")." U.S. Department of Justice and the Federal Trade Commission, Merger Guidelines, Issued: December 18, 2023, p. 2, https://www.ftc.gov/system/files/ftc\_gov/pdf/2023\_merger\_guidelines\_final\_12.18.2023.pdf. The Guidelines further explain, "The Agencies follow the facts and the law in analyzing mergers as they do in other areas of law enforcement." (Id., p. 4.) The 2020 vertical merger guidelines state that "[f]or mergers that warrant scrutiny, the Agencies will determine whether, based on an evaluation of the facts and circumstances of the relevant market, the merger may substantially lessen competition. [...] To determine whether the merger may substantially lessen competition, the Agencies would analyze the specific facts and circumstances, including in particular the relative magnitude of these offsetting incentives." U.S. Department of Justice & The Federal Trade Commission, "Vertical Merger Guidelines," June 30, 2020 (withdrawn), <a href="https://www.ftc.gov/system/files/documents/reports/us-department-">https://www.ftc.gov/system/files/documents/reports/us-department-</a> justice-federal-trade-commission-vertical-merger-guidelines/vertical merger guidelines 6-30-20.pdf, § 4. See also U.S. Department of Justice & The Federal Trade Commission, Commentary on the Horizontal Merger Guidelines, March 2006, p. 3, https://www.justice.gov/d9/383663.pdf ("Investigations Are Intensively Fact-Driven, Iterative Processes. Merger analysis depends heavily on the specific facts of each case. [...] In testing a particular postulated risk of competitive harm arising from a merger, the Agencies take into account pertinent characteristics of the market's competitive process using data, documents, and other information obtained from the parties, their competitors, their customers, databases of various sorts, and academic literature or private industry studies. [...] The Agencies also carefully consider prospects for efficiencies that the proposed transaction may generate and evaluate the effects of any efficiencies on the outcome of the competitive process.").

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 375 of 616 PageID #: 26868

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

would bear if it foreclosed its customers and thus should be accounted for in an analysis of Arm's incentives to foreclose.

108. Prof. Posner and Qualcomm's SAC argue that Arm, "appears to have an incentive to foreclose Qualcomm," 272 a customer that licenses OTS cores and an ISA from Arm, in order to reduce Qualcomm's ability to compete for the sales of chips. 273 According to their argument, this foreclosure would divert sales from Qualcomm's custom cores (which are all based on Nuvia technology), on which Arm makes a relatively small profit, to (i) Arm OTS cores and CSS customers, on which Arm makes a larger profit, and (ii) Arm's own chips, which are not yet on the market. 274 But Prof. Posner's claims about Arm's incentives to foreclose Qualcomm are incomplete, speculative, ignore real-world realities of the ecosystem, and are not tied to sound economic analysis.

109. According to Prof. Posner, this purported foreclosure can be either full foreclosure or partial foreclosure.<sup>275</sup> While Prof. Posner is vague about the exact foreclosure mechanism he envisions, I understand his theory to suggest that: (i) full foreclosure involves cutting off Qualcomm's access to both the ALA and the TLA;<sup>276,277</sup> or (ii) partial foreclosure involves cutting off Qualcomm's access to the ALA, but allowing Qualcomm's continued access to the TLA,

<sup>&</sup>lt;sup>272</sup> Posner Report, ¶ 64 ("Arm both has the ability and appears to have the incentive to foreclose Qualcomm and other firms from all sectors, particularly the data center-specific SoC sector.").

<sup>&</sup>lt;sup>273</sup> Posner Report, ¶¶ 11, 13 ("First, Arm is obstructing or attempting to obstruct Qualcomm from designing and marketing products that use Qualcomm custom core designs, in order to inhibit Qualcomm from competing with Arm's OTS core designs. Second, Arm is actively attempting to sell its own SoC designs at the expense of its own licensees, including Qualcomm. To that end, Qualcomm contends, Arm seeks to design and manufacture its own chips and SoCs, and seeks to drive Qualcomm away from designing custom cores, or to drive Qualcomm out of selling chips and SoCs entirely."), ¶ 64 ("Arm both has the ability and appears to have the incentive to foreclose Qualcomm and other firms from all sectors, particularly the data center-specific SoC sector."); SAC, ¶¶ 206-208.

<sup>&</sup>lt;sup>274</sup> See, for example, Posner Report, ¶¶ 70-71.

<sup>&</sup>lt;sup>275</sup> Posner Report, footnote 88.

<sup>&</sup>lt;sup>276</sup> Posner Report, ¶ 71 ("If Arm is able to cut off technology supply for Qualcomm completely, then Arm loses its upstream margins on the Qualcomm license. However, Arm would gain downstream sales and the downstream margins that they produce, assuming that Arm is a viable competitor in the downstream market either through organic entry or through acquisitions.").

<sup>&</sup>lt;sup>277</sup> As a matter of economics, refusing supply to a customer is equivalent to raising the price to a high enough level to make it unprofitable for the customer to buy a positive quantity.

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 376 of 616 PageID #:

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

potentially at an elevated price. <sup>278</sup> As such, both of Prof. Posner's alleged mechanisms of foreclosure suggest Arm completely removing Qualcomm's access to its current ALA. <sup>279</sup>

- 110. Prof. Posner assumes that foreclosure of Qualcomm has two countervailing effects on Arm's profit: (i) it has a negative effect (a "cost" for Arm) in the "short term" due to the reduction of Qualcomm's sales and associated loss of royalty revenue for Arm; and (ii) it has a positive effect (a "benefit" for Arm) in the "long term" because the sales lost by Qualcomm divert to Arm OTS cores and chips, with an associated increase in profit for Arm. He states that Arm has an incentive to foreclose Qualcomm because the "short term" costs from foreclosure are more than outweighed by the "long term" benefits. <sup>280</sup>
- 111. Prof. Posner's analysis is simplistic, incomplete, and inconsistent with standard economic analysis. It fails to account for a variety of "costs" Arm would suffer, both in the short and long term, if it foreclosed Qualcomm (or its other ALA customers).<sup>281</sup> Due to this failure, Prof. Posner's

<sup>&</sup>lt;sup>278</sup> Posner Report, ¶ 13 ("[I]n the long term, Arm believes that through engaging in anticompetitive conduct to push Qualcomm to rely on OTS cores, or out of the ecosystem entirely, it will gain more profits from either its own chips or from TLA royalties than it will lose in ALA royalties.") and ¶ 17 ("Arm is attempting to escape its ALA with Qualcomm so it can eliminate Qualcomm as a competing CPU developer. [...] Because Arm earns a higher royalty under the TLA, Arm would profit in the long term by forcing Qualcomm to stop designing custom cores and putting its resources into using OTS cores, even if it means Arm loses royalties on ALA cores in the short term.").

<sup>&</sup>lt;sup>279</sup> Prof. Posner may also have in mind a foreclosure mechanism whereby Arm maintains Qualcomm's ALA but either raises the royalty rate on the ALA or degrades the ALA service. *See* Posner Report, Figure 3 (It is not clear whether Prof. Posner's vague reference to "raising prices" refers to the price of Arm's ALA and/or TLA.) and ¶ 31 (Prof. Posner asserts that Arm's strategy includes "degrading [Qualcomm's] service under the ALA[.]").

<sup>&</sup>lt;sup>280</sup> Posner Report, ¶ 13 ("Arm seeks to drive Qualcomm away from designing custom cores, even if it means Arm loses royalties on those custom cores in the short term, because Arm's margins on selling and/or licensing its own cores, chips and SoCs would be higher in the long term than the margins on existing ALA licenses—and Arm is unhappy with the level of royalties that Qualcomm is required to pay under the ALA. Moreover, although Qualcomm has historically been one of Arm's most important customers, it appears that Arm is willing to sacrifice the licensing fees and product royalties that it can obtain from supporting Qualcomm in launching products because, in the long term, Arm believes that through engaging in anticompetitive conduct to push Qualcomm to rely on OTS cores, or out of the ecosystem entirely, it will gain more profits from either its own chips or from TLA royalties than it will lose in ALA royalties.") and ¶ 87 ("As customers flee Qualcomm to Arm, Arm will lose money in foregone royalties in the short term. But, Arm hopes to obtain larger margins in the long term as it takes over Qualcomm's business or Qualcomm is pushed to increasingly make use of Arm's OTS cores.").

<sup>&</sup>lt;sup>281</sup> Even in the context of the stylized model underlying Prof. Posner's analysis, the academic literature has highlighted "the interaction among often offsetting effects that complicate predicting that a vertical merger will result in consumer harm or even an increase in the price of the input to the competing downstream firm." (De Stefano, Martino and Michael Salinger, "The Complicated Simple Economics of Vertical Mergers," The Journal of Law and Economics, 2025, Vol. 68, No. 1). On the one hand, a vertical merger can create incentives for the merged firm to raise its wholesale price to downstream competitors that buy inputs from it to impair their competitiveness

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 377 of 616 PageID #: 26870

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

analysis is unreliable and prone to overstating Arm's purported benefits from foreclosing Qualcomm (and other ALA customers).

#### A. Relevant Economic Framework

112. I now outline the economic framework that informs my assessment of Arm's licensing strategy and incentives. I explain how Arm's conduct—particularly its approach to ALAs and TLAs—reflects standard commercial behavior shaped by partner-specific circumstances, competitive dynamics, and the need to balance incentives to innovate with incentives to develop the ecosystem. This framework provides necessary context for evaluating Qualcomm's claims and Prof. Posner's foreclosure theory.

#### 1. Arm's Licensing Strategy Is Tailored to Partner-Specific Circumstances

113. Arm licenses OTS cores, CSS, and its ISA to customers. In particular, Arm licenses its ISA on a standalone basis through ALAs as well as embedded into OTS cores and CSS through TLAs or other agreements.<sup>282</sup> More recently, Arm has decided to develop its own chip for data center

<sup>(</sup>raising rivals' costs). On the other hand, a vertical merger eliminates double marginalization between the upstream and downstream merging firms which can reduce downstream prices. It is therefore not surprising that a recent review of the empirical literature on the impact of vertical integration concludes: "overall, we find that the existing literature on vertical integration contains mixed results, with evidence of harm to competition as well as evidence of procompetitive effects." Beck, Marissa and Fiona Scott Morton, "Evaluating the Evidence on Vertical Mergers," Review of Industrial Organization, 2021, Vol. 59. Note that the simple models studied in academic settings typically abstract from the various costs of foreclosure listed subsequently in Section VII. The potential overall procompetitive benefit of vertical mergers is reflected in some recent Court decisions. *See*, for example, *Federal Trade Commission v. Tempur Sealy International and Mattress Firm Group Inc.*, U.S. District Court, Southern District of Texas, Civil Action No. 4:24-cv-02508, Opinion and Order Denying Motion for Preliminary Injunction, January 31, 2025, Case 4:24-cv-02508, Dkt. Entry 511 ("The merger's effect here (like most vertical mergers) is instead likely to be either neutral or procompetitive, with the cumulative effect of certain remedial commitments attendant to the merger reasonably addressing any lingering concerns. [...] [T]he inquiry must proceed with recognition that 'academics, courts, and antitrust enforcement authorities alike' have repeatedly recognized that vertical mergers may serve to benefit competition and consumers.").

<sup>&</sup>lt;sup>282</sup> See Section III.C. Most customers have difficulties in building their own cores and therefore, Arm supports them by building cores itself rather than providing just the ALA. See Haas (Arm) Deposition, 185:7-22 ("[I]t's a market [the automotive market] that's been in transition where OEMs are developing chips, not chip companies. And OEMs need a lot of help in terms of developing SOCs because they're not very experienced. So I believe that going to subsystems, which is the amalgamation of all the IP blocks, would be more advantageous to us because it would get us and the customers to market faster. So "licensing IP and only sell systems" is referring to individual components versus what we call our compute subsystems, which are the combinations of all the IP blocks.").

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 378 of 616 PageID #: 26871

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

applications and has reached a supply agreement with Meta.<sup>283</sup> In addition, Arm is conducting chip design R&D for auto applications, explaining that "we've engaged and considered building for a lead partner in the automotive division, silicon for the ADAS market for a potential lead customer called Waymo."<sup>284</sup> In contrast, Arm is not engaging in chip design R&D for other applications, such as PCs or mobile.<sup>285</sup>

- 114. As an ISA provider, Arm competes with other ISAs, in particular x86 and RISC-V, and their respective ecosystems. Due to its advantages in terms of power efficiency, the Arm ISA currently accounts for a large share of the mobile sector. This success is no happenstance but the result of Arm's R&D investment in the development of a high-quality product that customers demand. Arm continues to invest about 40% of its revenue in R&D. In other applications, Arm's ISA share is smaller.
- 115. Arm carefully negotiates the terms of its ALAs (and TLAs) to maintain its success and grow the value of its ecosystem and its profits in the marketplace.<sup>289</sup> Contrary to Qualcomm's claim, there is no evidence that Arm opposes negotiating ALA licenses, given that it has several ALAs, including some signed after the Nuvia agreement.<sup>290</sup> Any such agreement needs to be

<sup>&</sup>lt;sup>283</sup> Gyana Swain, "Arm secures Meta as first customer in chip push, challenging industry giants," ComputerWorld, February 14, 2025, <a href="https://www.computerworld.com/article/3825123/arm-secures-meta-as-first-customer-in-chip-push-challenging-industry-giants.html">https://www.computerworld.com/article/3825123/arm-secures-meta-as-first-customer-in-chip-push-challenging-industry-giants.html</a>.

<sup>&</sup>lt;sup>284</sup> Williamson (Arm) Deposition, 125:18-22.

<sup>&</sup>lt;sup>285</sup> Abbey (Arm) June 2025 Deposition, 128:21-129:10, Williamson (Arm) Deposition, 126:2-4, 175:14-25 (There are "[n]o active chips or silicon support development in the PC market." Arm discussions with OEM mobile vendors have not extended to providing them a completed chip, "Our focus has been what we call compute subsystems.").

<sup>&</sup>lt;sup>286</sup> "Arm Holdings plc, Q1 FYE26 Investor Presentation," Arm Holdings, July 30, 2025, p. 11, https://investors.arm.com/static-files/dae25601-3e5a-4d40-b9f5-e0149989e553.

<sup>&</sup>lt;sup>287</sup> Arm 2023 Form F-1, p. 99.

<sup>&</sup>lt;sup>288</sup> See "Arm Holdings plc, Q4 FYE25 Investor Presentation," Arm Holdings, May 7, 2025, p. 11, https://investors.arm.com/static-files/6bb3def3-ddce-4588-bf81-b5a718973274.

<sup>&</sup>lt;sup>289</sup> See, for example, ARM\_00095947 at '955 (Arm's CEO discussing a possible offer to Google that "has many unprecedented components to it, but at the same time I also acknowledge that Google and our relationship is an unprecedented model.").

<sup>&</sup>lt;sup>290</sup> Ehab Youssef identified IBM and Apple as partners that signed an ALA since 2019. *See* Deposition of Ehab Youssef, June 26, 2025 (hereinafter "Youssef (Arm) Deposition"), 31:18-22; Google signed an ALA in June 2021 (ARM\_01428339); Deposition of Martin Weidmann, June 20, 2025 (hereinafter "Weidmann (Arm) Deposition"), 35:9-36:14 (identifying eight ALA customers: Qualcomm, Apple, HiSilicon, IBM, Fujitsu, Ampere, T-HEAD and

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 379 of 616 PageID #: 26872

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

mutually beneficial to both Arm and its licensee. The presence of mutual gain is a basic economic principle that applies to any negotiation that Arm and Qualcomm might have, including with other firms or for different products.

116. Importantly, when buyers or licensees have differing goals, needs, and strategic priorities, a standardized agreement may not be effective. To ensure that both parties in a negotiation benefit, Arm tailors the terms of agreement to each individual customer, reflecting that customer's specific circumstances and requirements.<sup>291</sup> If there is a potential agreement that would benefit both seller and buyer—i.e., there are mutually beneficial gains from trade—the involved parties try to discover it through the negotiating process.<sup>292</sup> How the gains from trade are divided between the buyer and the seller depends on various factors, such as the negotiating parties' bargaining strength (or skills), the alternatives available to them in case the parties are unable to reach an agreement, and the parties' degree of impatience.<sup>293</sup> Not all buyers will receive the same deal, instead the terms of their deals will vary depending on factors such as application, potential for innovation, and expected revenue.<sup>294</sup>

BRJX).

294		

<sup>&</sup>lt;sup>291</sup> Weidmann (Arm) Deposition, 199:5-8 ("But each contract is tailored to the desires of a particular partner. Different partners work in different markets.").

<sup>&</sup>lt;sup>292</sup> Unrealized gains from trade may occur in certain situations (for example, when only simple linear prices can be used, instead of more complex pricing schemes; or when the parties have largely different expectations). *See* for example, Muthoo, Abhinay, "A Non-Technical Introduction to Bargaining Theory," World Economics, April-June 2020, Vol. 1, No. 2. ("The main issue that confronts the players in a bargaining situation is the need to reach agreement over exactly how to co-operate. Each player would like to reach some agreement rather than to disagree and not reach any agreement, but each player would also like to reach an agreement that is as favorable to her as possible. It is thus possible that the players will strike an agreement only after some costly delay, or indeed fail to reach any agreement—as is witnessed by the history of disagreements and costly delayed agreements in many real-life situations (as exemplified by the occurrences of trade wars, military wars, strikes and divorce).").

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 380 of 616 PageID #: 26873

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

- 117. Arm agrees to deals that allow it to protect and expand its IP, ecosystem, and revenue potential, and to foster its ability to continue investing in R&D to effectively compete with alternatives currently available in the marketplace or that can become available in the future.<sup>295</sup>
- 118. Consistent with this framework, Arm has not historically provided an ALA to every incumbent or entrant chip producer that requests one.<sup>296</sup> When evaluating any potential agreement, Arm needs to trade-off different effects of licensing its ISA. For example, a new ALA may reduce Arm's revenue from the sale of OTS cores or its own chips (when they eventually become available). This effect needs to be weighed against the risk of not reaching an agreement, which

<sup>295</sup> ARMQC\_02739661 (an Arm "working draft strategic narrative to support the FY22-FY25 financial plan" identifying Arm's "North Star" as "[t]he demand for high-performance, highly efficient compute is increasing exponentially. That means there is an opportunity to build new solutions, grow our business, and for the future of computing to be built on Arm - because Arm is the best way to build these new solutions. We don't and won't accomplish this alone. We work together within Arm and with our broader ecosystem to share knowledge, solve complex problems, and win together."). *See also* Abbey (Arm) June 2025 Deposition, 145:19-23 ("[W]e continue to look to enhance our business model [...] so that the ecosystem can have broader access to ARM technology.").

<sup>&</sup>lt;sup>296</sup> Conversation with Paul Williamson (Arm's Senior Vice President and General Manager of the IoT Line of Business), September 2, 2025. Mr. Williamson explained that the development of a chip has a high risk of failure and is very expensive (needing large teams of engineers working on the development for multiple years), and that supporting an ALA customer's effort requires significant Arm commitment in terms of resources. In a 2021 presentation, Richard Grisenthwaite, Chief Architect at Arm, stated that Arm "strongly prefers" TLA over ALA. See ARMQC 02727610 at '619. He explained that the statement reflected the fact that firms may overstate their ability to develop a chip starting from Arm's architecture, not Arm's alleged anticompetitive intent: "ARM as a whole prefers people to take implementation licenses simply because we have seen too many people take an architecture license out of a belief they can do better, fail to do better, waste a great deal of money, and that money could have been spent better furthering the ARM ecosystem [...] [and] investing in increasing the software ecosystem or producing products where the companies are specializing in their own areas of expertise and just taking an ARM [...] TLA core as the basis and bringing their own skills and experience in some other area of the system." See also Grisenthwaite (Arm) Deposition, 27:4-23. See also Abbey (Arm) June 2025 Deposition, 46:14-18 (explaining "There's never a can you give it to me, I just give it to you. There's always a good-faith discussion and negotiation around rights and what partners are trying to achieve with the architecture."); 46:25-47:4 ("In the -- in the seven, eight years that I led the team, negotiations -- I'm sorry -- good-faith negotiations always precede any proposal that's given. Common sense, alignment around outcomes, terms, markets."). As an example of the complexity to develop a custom core, before acquiring Nuvia, Qualcomm worked on a custom core for servers which was abandoned because it was "a money sync [sic] basically" and "too expensive, and we looked at it as -- you know, our yearly cost was very high, and we didn't see it turning into significant business for many years. So we decided we could not afford the spend."

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 381 of 616 PageID #: 26874

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

would entail the loss of ALA royalty revenue as well as the loss of the benefits in terms of a customer's complementary investments and the associated increase in the value of the Arm's ecosystem compared to alternative ecosystems.

119. The economic framework outlined above explains the benefits of Arm's two-tier licensing structure (ALA and TLA), which provides room for ALA licensees with the requisite design capabilities to differentiate their products by making investments that benefit both Arm and the licensee, while preserving widespread access to Arm's ISA via TLAs where Arm itself invests in core designs that benefit licensees.

### 2. <u>The Nuvia Agreement Illustrates Arm's Legitimate Interest in Managing Risk and Securing Value</u>

120. A good example of the economic incentives to reach an agreement that is mutually beneficial is Arm's negotiation with Nuvia. As discussed above, at the time of its ALA with Arm Nuvia was a start-up company that had significant potential but limited financial means.
I note that this characterization fits the economic framework outlined above. There were mutual gains from trad
that could be realized by structuring the deal in a specific way that would benefit both Arm an

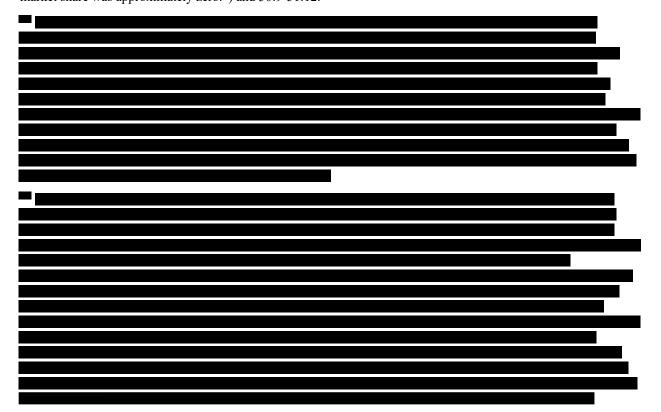
#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 382 of 616 PageID #: 26875

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Nuvia. Furthermore, Nuvia was planning to develop a chip for data center applications.<sup>298</sup> This made the deal particularly appealing to Arm, given that Arm's ISA had not historically gained traction in data centers.<sup>299</sup>

121.	Arm entered the negotiation understanding that Nuvia could be acquired, <sup>300</sup> and that a	ı new
owner	might leverage Nuvia's technology in ways that would reduce the benefit to Arm. To pr	otec
its IP a	and revenue stream from potential negative effects in case Nuvia were acquired,	
		This

<sup>&</sup>lt;sup>299</sup> Conversation with Paul Williamson (Arm's Senior Vice President and General Manager of the IoT Line of Business), September 2, 2025. In a December 2020 report, research firm Gartner stated that Arm-based vendors in the data center space "have [not] achieved significant success, and many have had to reevaluate their developments or fallen by the wayside. [...] challenges still remain as [Arm-based] vendors have to compete with the incumbent x86 architecture, which has significant investments in both CPU development and software ecosystems." *See* ARM\_00045266 at '267-268. *See also* Awad (Arm) Deposition, 48:12-23 (Reporting that in late 2018 "Arm's market share was approximately zero.") and 50:9-51:12.



<sup>&</sup>lt;sup>298</sup> "Silicon Design Reimagined," Nuvia, Inc., January 15, 2021, <a href="https://web.archive.org/web/20210115193713/https://nuviainc.com/">https://web.archive.org/web/20210115193713/https://nuviainc.com/</a> ("Our Mission [-] Is to reimagine silicon in a new way, and create computing platforms that redefine performance for the modern data center.").

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 383 of 616 PageID #: 26876

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

provision is logical and easily explained by the economic framework outlined above: changing economic conditions require different contractual terms, and an agreement that creates mutual gain for Arm when negotiating with one potential licensee may not work when negotiating with another potential licensee.

potential ncensee.
122.
Arm's willingness to enter into an ALA with a
start-up enabled more competition in the data center market. But this approach is only feasible if
parties can later seek to enforce their understanding of the counterparties' contractual
commitments, as I discuss below.
123.
Nevertheless, the economic framework outlined above suggests
that the terms of the 2013 ALA with Qualcomm allowed both parties to benefit, based on the actual
and expected competitive landscape at the time.
302

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 384 of 616 PageID #: 26877

- 3. Qualcomm and Prof. Posner Have Not Demonstrated that Arm's Dispute with Qualcomm Is Anticompetitive Conduct Rather than a Standard Commercial Disagreement
- 124. I do not opine whether there was a breach of contract by either Arm or Qualcomm. I have been asked by Counsel for Arm to assume that the disagreement with Qualcomm reflects Arm's genuine views of Qualcomm's and Nuvia's contractual obligations rather than an intent to harm Qualcomm.<sup>304</sup> I do note, as I further discuss below, that contractual disputes are common and the legal system provides the appropriate venue to resolve disputes. The reduction in uncertainty resulting from a legal resolution of disputes promotes investments and competition.<sup>305</sup> Legal disputes do have disruptive effects on both parties involved and their partners, but this is the cost of moving past the dispute and unlocking the gains that the dispute is holding back.<sup>306</sup>

<sup>&</sup>lt;sup>304</sup> See ARM\_00081753 (August 31, 2022 email from Rene Haas to Arm's employees. Mr. Haas states: "[Arm has] filed a lawsuit against Qualcomm and its subsidiary Nuvia for breach of contract with Arm and trademark infringement. Protecting intellectual property is something that is extremely important to Arm's fundamental business, and crucial for us to succeed. Our world-class semiconductor IP is the result of years of research by our people and should be recognized and respected — it is incumbent upon us to protect our rights and the rights of our ecosystem. When Qualcomm acquired Nuvia, neither Qualcomm nor Nuvia obtained our consent for the resulting assignment of Nuvia's Arm licenses to Qualcomm and the rights thereunder. This is a standard term in our licenses that protects Arm, our partners, and our ecosystem. We tried to work the issue out with Qualcomm, but those discussions failed. In March, we terminated the Nuvia license. As a result, Nuvia and Qualcomm were obligated to stop using and destroy the technology created under that license. Since Qualcomm continues to use the license, we have filed a lawsuit to enforce the contractual obligation and to prevent the use of Arm's trademarks with unlicensed products. It is unprecedented for us to take this type of action, and it's unfortunate that it has come to this point. But I feel very strongly that we can't look the other way, and need to protect our IP, our investment, our partners, our ecosystem, and our company. This is the right thing for us to do."

<sup>&</sup>lt;sup>305</sup> Uncertainty is a factor holding back firms' investments. *See* Bloom, Nick, Stephen Bond, and John Van Reenen, "Uncertainty and Investment Dynamics," The Review of Economic Studies, 2007, Vol. 74, No. 2, pp. 391-415. *See also* Aberra, Adam and Matthieu Chemin, "Does legal representation increase investment? Evidence from a field experiment in Kenya," 2021, Journal of Development Economics, Vol. 150, providing evidence of the positive effects of access to the legal system on economic activity.

<sup>&</sup>lt;sup>306</sup> See, for example, Baumol, William J. and 18 other leading economics scholars, "Supreme Court Amicus Brief Regarding Morgan Stanley Capital Group Inc. v. Public Utility District No. 1 of Snohomish County, Washington," December 2007, <a href="https://appext.hks.harvard.edu/publications/getFile.aspx?Id=451">https://appext.hks.harvard.edu/publications/getFile.aspx?Id=451</a> ("Economists have long recognized that certainty of contract is essential to a healthy economy. [...] Those contracts can only accomplish that goal, however, if parties know the contracts will be enforced. [...] The 'fundamental function of contract law' is to 'encourage the optimal timing of economic activity' by 'deter[ring] people from behaving opportunistically toward their contracting parties.' Richard A. Posner, Economic Analysis of Law 91 (4th ed. 1992). [...] That function cannot be accomplished without effective means for enforcement. As this Court has stated: "Market efficiency requires effective means to enforce private agreements." Am. Airlines, Inc. v. Wolens, 513 U.S. 219, 230 (1995).").

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 385 of 616 PageID #: 26878

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

125. Within the economic framework discussed above, the dispute between Qualcomm and Arm can be interpreted as a dispute about the terms by which Nuvia could create a new design for a CPU and the terms under which Qualcomm could incorporate into its custom cores the designs that Nuvia developed under Nuvia's 2019 ALA with Arm. Qualcomm argues that it can use designs created by Nuvia using the Nuvia ALA without having to pay the royalty rates that Nuvia negotiated with Arm, and insists that it can pay the lower royalty rate in the Qualcomm-Arm ALA instead. Arm contends that Arm needs to be appropriately compensated to allow the transfer of the designs created by Nuvia using the Nuvia ALA to Qualcomm. There are likely gains from trade, but the parties disagree on the terms of a mutually beneficial agreement. In fact, the parties did attempt to reach an agreement, but failed to do so. Arm's and Qualcomm's unsuccessful attempt to resolve their dispute lasted for about a year. After becoming aware that Qualcomm

 $<sup>^{307}</sup>$  SAC, ¶ 7.

<sup>&</sup>lt;sup>309</sup> Abbey (Arm) October 2023 Deposition, 275:16-278:13.

<sup>&</sup>lt;sup>310</sup> See ARM\_00081461 (August 25, 2021, email from Rene Haas references the back and forth that Arm and Qualcomm had, stating to internal Arm leadership that "there has been so much back and forth [with Qualcomm]

repositioning their asks.").

<sup>&</sup>lt;sup>311</sup> Priest, George L. & Benjamin Klein, "The Selection of Disputes for Litigation," Journal of Legal Studies, 1984, Vol. 13, pp. 1-55, build a model predicting that disputes that settle out of court generally reflect similar expectations between the disputing parties, whereas those that proceed to trial often involve greater uncertainty and divergent expectations about the likely outcome of litigation. Other papers have highlighted parties' excessive optimism as a possible explanation for why a negotiation may fail to reach an agreement even though a compromise could be mutually beneficial. *See*, for example, Babcock, Linda, George Loewenstein, S. Issacharoff, and Colin Camerer, "Biased Judgements of Fairness in Bargaining," American Economic Review, 1995, Vol. 85, No. 5., pp. 1337-1343.

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 386 of 616 PageID #: 26879

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

had started to use Nuvia technology in its custom cores, Arm filed the  $Arm\ v.\ Qualcomm$  litigation in August 2022. 313

<sup>316</sup> The legal dispute is an issue on which I do not offer an opinion.

<sup>81</sup> 

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 387 of 616 PageID #: 26880

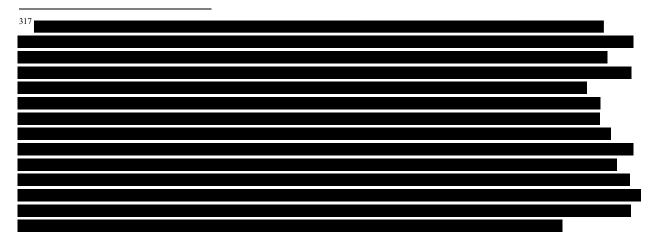
### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

a higher price for a license to its newly created IP at a time that is years after the 2013 ALA with Oualcomm.<sup>317</sup>

### 4. <u>Protecting Competition Does Not Require Arm to License Its ISA on Qualcomm's Preferred Terms</u>

127. Protecting competition—rather than specific competitors—does not require imposing on Arm a duty to grant Qualcomm an ALA license at terms that Qualcomm prefers. Even if Arm decided that it is not in its interest to license at terms that Qualcomm, subjectively, considers "reasonable,"<sup>318</sup> that would not be in itself anticompetitive. As a matter of economics, a duty to deal creates inefficiencies that Qualcomm and Prof. Posner ignore. For example, a duty to license may undermine incentives for R&D by reducing the value of an innovation to the inventor. As two leading scholars in industrial organization explained,

An obligation to deal does not necessarily increase economic welfare even in the short run. In the long run, obligations to deal can have profound adverse incentives for investment and for the creation of intellectual property. Although there is no obvious economic reason why intellectual property should be immune from an obligation to deal, the crucial role of incentives for the creation of intellectual property is reason enough to justify skepticism toward policies that call for compulsory licensing. Equal access (compulsory licensing in the case of intellectual property) is an efficient remedy only if



<sup>&</sup>lt;sup>318</sup> SAC, ¶ 20 ("Arm failed to uphold its obligations under the QC TLA by refusing to offer licenses to its off-the-shelf cores at commercially reasonable prices to Qualcomm."); Posner Report, ¶ 13.

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

the benefits of equal access outweigh the regulatory costs and the long run disincentives for investment and innovation. This is a high threshold, particularly in the case of intellectual property.<sup>319</sup>

- 128. Indeed, undermining an innovator's ability to appropriate the returns to its R&D undermines the innovator's incentive to innovate in the first place.<sup>320</sup> Protecting IP is, therefore, crucial in incentivizing the creation and diffusion of many types of innovations.<sup>321,322</sup>
- 129. Furthermore, there is no evidence that Arm is refusing to deal with Qualcomm. In fact, as recently as August 29, 2025, Arm responded to Qualcomm's August 8, 2025, letter with a set of "initial questions" regarding the terms outlined in Qualcomm's "proposed Annex 1 to the ALA for Arm's unreleased v10," and reaffirmed its intention to "move the negotiations forward." But Qualcomm appears to seek a v10 license on the same royalty rate as v8 and v9, which were set twelve years ago in 2013. It is not anticompetitive for Arm to negotiate a higher royalty rate for

<sup>&</sup>lt;sup>319</sup> Gilbert, Richard J. and Carl Shapiro, "An Economic Analysis of Unilateral Refusals to License Intellectual Property," Proceedings of the National Academy of Sciences U.S.A., 1996, Vol. 3, pp. 12749–12755. (The authors conclude that "the welfare consequences of a refusal to deal are ambiguous and that the requirement of mandatory access may lower economic welfare in the short run as well as in the long run." They also state: "A refusal to deal by a vertically integrated firm appears on its face to adversely affect competition by denying rivals a product or service that is a necessary input for effective competition. This is hardly a complete analysis, however, because it does not account for the incentives to create the essential input or the price at which that input can optimally be sold. Clearly, the mere fact that a firm controls an input that is valuable to its competitors cannot be sufficient to compel a duty to deal, as a firm can have many innocent reasons for refusing to supply a rival.").

<sup>&</sup>lt;sup>320</sup> Spulber, Daniel F., "How Do Competitive Pressures Affect Incentives to Innovate When There is a Market for Inventions?" Journal of Political Economy, 2013, Vol. 121, No. 6, pp. 1007-1054 ("When IP is not fully appropriable, markets for inventions are limited and competitive pressures can decrease incentives to innovate.").

<sup>&</sup>lt;sup>321</sup> *Ibid.* ("Appropriability of IP stimulates innovation by supporting the formation of a market for inventions. The market for inventions is a critical source of incentives for innovation in the economy.").

<sup>&</sup>lt;sup>322</sup> A draft letter by Arm explains, "technological achievements have required years of research and significant costs, they must be recognized and respected." *See* ARM\_01230978 at '978. Without being compensated for the fruits of R&D efforts, Arm would be disincentivized from pursuing R&D.

<sup>&</sup>lt;sup>323</sup> ARMQC\_02785287 at '287 - '290 (August 29, 2025, letter from Spencer Collins (Arm) to Ann Chaplin (Qualcomm)). On June 13, 2025, Arm reiterated to Qualcomm that "Arm remains prepared to negotiate in good faith over the terms of a license to the v10 architecture." *See* ARMQC\_02771127. In the that same letter, Arm further told Qualcomm that its "offer to meet remains open and Arm continues to believe that such a meeting would be the most efficient path forward in response to Qualcomm's request [for a v10 license]. Please have the relevant business personnel respond to Mr. Abbey with dates that Qualcomm is available for such a meeting."

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 389 of 616 PageID #: 26882

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

its innovations; no more anticompetitive than for Qualcomm to negotiate a higher price for its new chips.<sup>325</sup> On the contrary, imposing on a firm a duty to license a new and improved version of a technology at the same royalty rate as the previous version poses a clear risk of severely dampening incentives to innovate.<sup>326</sup> This risk is enhanced when the initial royalty rate, and thus profit margin for the innovator, is low, as it appears to be the case with the royalty rates in Qualcomm's 2013 ALA.<sup>327</sup>

130. In other contexts, Qualcomm seems strongly opposed to imposing any duty to deal on IP owners. For example, in its Reply Brief to the U.S. Court of Appeals, Qualcomm forcefully argued that "[u]nder settled precedent, the default rule is that even a monopolist has the right to determine with whom it will do business, and on what terms." Similarly, in its Amici Brief to the Supreme Court in the *eBay* case, Qualcomm stated that "[f]inal injunctions are an established part of the relief in successful patent infringement suits because the essence of the patent is the right to exclude others from practicing the patented invention [...]." 329

compensation for v10 on terms no other party had actually secured and would continue to pay below-market compensation for the next twenty-three years." *See* ARMQC\_02785287 at '288 (August 29, 2025 letter from to Spencer Collins (Arm) Ann Chaplin (Qualcomm)).

<sup>&</sup>lt;sup>325</sup> Rajesh Pandey, "Qualcomm wants Android device makers to pay even more for its next flagship chip," Yahoo Tech, December 2, 2024, <a href="https://tech.yahoo.com/phones/articles/qualcomm-wants-android-device-makers-092330024.html">https://tech.yahoo.com/phones/articles/qualcomm-wants-android-device-makers-092330024.html</a> ("Qualcomm's Snapdragon 8 Elite offers a notable improvement in performance and efficiency over previous Snapdragon chips, promising next-gen Android phones with even more impressive features and longer battery life. However, this comes at a cost, with reports suggesting manufacturers are paying Qualcomm as much as \$190 for the chip — 20% more than the previous models.").

<sup>&</sup>lt;sup>326</sup> Ann Chaplin, Qualcomm's General Counsel and Corporate Secretary, testified that Qualcomm believed that a "royalty rate that's the same as our v9 license would be a fair rate for v10."

<sup>&</sup>lt;sup>327</sup> See Section VIII.C.

<sup>&</sup>lt;sup>328</sup> Federal Trade Commission v. Qualcomm Incorporated, "Reply brief for appellant Qualcomm Incorporated (Redacted)," December 16, 2019, No. 19-16122, Dkt. Entry 228, United States Court of Appeals for the Ninth Circuit, p. 8.

<sup>&</sup>lt;sup>329</sup> eBay Inc. and Half.com v. MercExchange, L.L.C, "Brief of Amici Curiae Qualcomm Inc. & Tessera, Inc. in Support of Respondent," 547 U.S. 388 (2006) (No. 05-130), p. 4. The Brief also states (p. 2) "[t]he viability of high technology industries depends in significant part on the maintenance of strong patent laws. The amici believe the well-established presumption in favor of permanent injunctive relief to implement a final judgment of infringement is essential to the ability of patent holders to enforce their patents."

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

#### B. Prof. Posner's Opinions on Ability to Foreclose Are Flawed

- 131. Prof. Posner says he investigates Arm's conduct within an "ability/incentive framework," which "is a standard method for evaluating the competitive effects of vertical mergers." He opines that "Arm both has the ability and appears to have the incentive to foreclose Qualcomm and other firms from all sectors, particularly the data center-specific SoC sector." I address Prof. Posner's conclusion about ability in this Section and address his conclusion about incentives in Section VII.C.
- 132. Prof. Posner concludes that "Arm has the ability to foreclose Qualcomm from the Arm-compliant data center-specific SoC sector as well as other sectors" and that Arm has such ability because "Arm's control over its ecosystem allows it to discriminate against firms that participate in the ecosystem despite Arm's earlier promises to keep the system open." Prof. Posner's analysis omits crucial factors and his blanket statements are oversimplifications that bely a more complex reality.
- 133. *First*, unless Qualcomm breaches the terms of its ALA in a way supporting termination, Arm does not have the ability to foreclose Qualcomm's access at all until
- 134. *Second*, with approximately eight years to go until the expiration of its ALA and TLA, Qualcomm has ample time to further invest in RISC-V as an alternative to Arm's ISA and cores.

<sup>&</sup>lt;sup>330</sup> Posner Report, ¶ 29.

<sup>&</sup>lt;sup>331</sup> Posner Report, ¶ 64.

<sup>&</sup>lt;sup>332</sup> Posner Report, ¶ 65. Prof. Posner further claims that there exists evidence of Arm's ability to foreclose Qualcomm's access to Arm's ISA and that "Arm's ability to degrade firms' access to the Arm ISA has been demonstrated by Arm's actions against Qualcomm," such as Arm's "[f]ailure" to provide Qualcomm "with certain deliverables in violation of the ALA," Arm's "[f]ailure" to provide Qualcomm with good-faith licensing proposals under the TLA," Arm's "[r]efusal to negotiate an extension of the ALA to cover future versions of Arm's ISA," Arm's "[m]isinformation campaign [...] designed to undermine customers' confidence in Qualcomm," and Arm's "[r]eduction in general support."

<sup>333</sup> 

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 391 of 616 PageID #: 26884

Qualcomm can innovate to expand RISC-V's use cases and improve its performance. <sup>335</sup> This fact
has indeed been recognized by Qualcomm.
125 Third Duef Desman ignores differences in commetitive conditions comes amiliartions
135. Third, Prof. Posner ignores differences in competitive conditions across applications.
Whereas currently RISC-V is not ready to replace Arm in high-performance chips for
smartphones, Qualcomm already uses RISC-V in microcontrollers for low-end applications. <sup>338</sup> In
fact, Qualcomm touts that there "are in excess of a billion devices that have [Qualcomm] RISC-V
integrated microcontrollers in them."339
integrated interestational in them.
which is categorized as a "High-
335 C. C. C. VIII D.2 C. L. L. C.
335 See Section VIII.D.3 for a discussion of RISC-V and Qualcomm's efforts to develop it.
337
338 See Section VIII.D.3. See also "What is RISC-V, and why we're unlocking its potential," Qualcomm, September
8, 2023, <a href="https://www.qualcomm.com/news/onq/2023/09/what-is-risc-v-and-why-were-unlocking-its-potential">https://www.qualcomm.com/news/onq/2023/09/what-is-risc-v-and-why-were-unlocking-its-potential</a> ; "Keynote: Accelerating Innovation with RISC-V: Past, Present and Future - Manju Varma," RISC-V International,
YouTube, December 29, 2022, at 1:01, <a href="https://www.youtube.com/watch?v=t6-9pbgg1LI&amp;ab-channel=RISC-">https://www.youtube.com/watch?v=t6-9pbgg1LI&amp;ab-channel=RISC-</a>
<u>VInternational</u> (Manju Varma (Qualcomm) stating: "To date, we have shipped over 650 million RISC-V cores in the market and this number just keeps growing. [] We have shipped RISC-V cores in PC, mobile, automotive, XR,
and wearable segments.").
339 "Keynote: Unlocking Innovation with RISC-V and Qualcomm - Ziad Asghar," RISC-V International, YouTube,
November 29, 2023, <a href="https://www.youtube.com/watch?v=9h9LwkPnrUw&amp;ab channel=RISC-VInternational">https://www.youtube.com/watch?v=9h9LwkPnrUw&amp;ab channel=RISC-VInternational</a> , at 4:50.
340

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 392 of 616 PageID #:

#### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Performance CPU" on Arm's product listing.<sup>341</sup> Therefore, Prof. Posner's blanket statement that Arm can foreclose "Qualcomm and other firms from all sectors" is incorrect.342

136. Overall, a more nuanced conclusion on whether Arm can foreclose Qualcomm's access to
its ISA and cores is that Arm's ability varies by use case—for some use cases, Qualcomm already
uses RISC-V—and in any event such ability to foreclose would be far in the future
providing Qualcomm and others ample time to further develop a free open-source
competitor to Arm.
137. Prof. Posner also suggests that Arm could foreclose Qualcomm for some applications, but
not for others, allowing Arm to continue benefiting from the partnership with Qualcomm in
segments where "Qualcomm has special relationships with some of its customers, a good
reputation in a sector, niche abilities, and other advantages." <sup>343</sup> But Prof. Posner does not address
the fact that Qualcomm's ALA with Arm

<sup>341 &</sup>quot;CPU Cortex-A78," Arm, https://www.arm.com/products/silicon-ip-cpu/cortex-a/cortex-a78 ("Fourth-Generation, High-Performance CPU Based on DynamIO Technology, Designed for high-end performance at best efficiency, Cortex-A78 enables superior immersive experiences, bridging the gap between mobile and laptop performance. Optimized for new form factors and foldables, Cortex-A78 is ready for the next wave of mobile innovation and continues Arm's industry-leading mobile performance and efficiency with 5G device architecture.").

<sup>&</sup>lt;sup>342</sup> Posner Report, ¶ 64.

<sup>&</sup>lt;sup>343</sup> Posner Report, ¶ 72 ("But even if Arm does not succeed in foreclosing Qualcomm entirely, Arm would still benefit from partially foreclosing Qualcomm in certain sectors. For example, if Qualcomm has special relationships with some of its customers, a good reputation in a sector, niche abilities, and other advantages, Arm might continue to benefit from Qualcomm as a chip supplier of Arm-compliant chips for certain sectors for the time being while displacing Qualcomm in other sectors. In that way, Arm continues to benefit from royalties in some sectors while taking over other sectors by degrading Qualcomm's ability to compete in those sectors.").

<sup>345</sup> For example, Arm introduced v9 in 2021. See Aditya Bedi, "The Foundation of Total Compute: First Armv9 Cortex CPUs," Arm Community, May 25, 2021, https://community.arm.com/arm-community-blogs/b/architecturesand-processors-blog/posts/first-armv9-cpu-cores

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

### C. Prof. Posner Does Not Account for Costs that Arm Would Suffer from the Alleged Foreclosure of Qualcomm and Other Customers

- Qualcomm to benefit Arm's TLA business and Arm's own chips. Prof. Posner claims that "Arm has an incentive to engage in input foreclosure in sectors where the potential long-term gains from taking business from licensees exceed the short-term loss of royalties on the products that the licensees no longer sell." He also states that "[i]t is possible that Arm would maximize profits by completely destroying Qualcomm's business opportunities in certain sectors even though it would suffer a short-term loss of royalties. [...] But even if Arm does not succeed in foreclosing Qualcomm entirely, Arm would still benefit from partially foreclosing Qualcomm in certain sectors." Remarkably, no evidence is provided to support these sweeping statements, other than the observation that Arm's margin from an ALA license is lower than the margin from a TLA license and from the sales of Arm's own chips. The support these sweeping statements are the margin from a TLA license and from the sales of Arm's own chips.
- 139. In this Section, I show that foreclosure of Qualcomm would have significant costs for Arm that Prof. Posner's analysis does not account for, thus rendering his analysis unreliable. In light of these significant costs, the various events that Qualcomm alleges as anticompetitive have a benign, procompetitive interpretation: in the presence of uncertainty about contractual terms, Arm was simply attempting to preserve the value of its contractual agreements. Although I do not offer an opinion on breach of contract, I do note that disagreements among firms about the right interpretation of the terms of an agreement between them are very common, especially in dynamic

<sup>&</sup>lt;sup>346</sup> Posner Report, ¶ 67.

<sup>&</sup>lt;sup>347</sup> Posner Report, ¶ 72.

<sup>&</sup>lt;sup>348</sup> Posner Report, ¶ 74. The highly theoretical and wholly unsubstantiated nature of Prof. Posner's report is illustrated by his claim that "input foreclosure would likely give Arm substantial downstream power, enabling it to raise prices both unilaterally and potentially through coordination or collusion with any remaining downstream competitors." *See id.*, ¶ 75. Not a single piece of evidence, not even the "conversations" with Qualcomm employees that are the only support for some of his other claims, is provided for the claim that Arm's conduct would lead to "coordination or collusion." Such a claim is not even in the SAC or any of Qualcomm's interrogatory responses.

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 394 of 616 PageID #: 26887

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

high-tech industries.<sup>349</sup> Qualcomm itself aggressively protects its IP through lawsuits and requests for injunctive relief.<sup>350</sup>

- 1. The Role of Qualcomm and Other Partners in Expanding Arm's Success and Ecosystem Against Alternative ISAs
- 140. Prof. Posner states that "Qualcomm uses its own custom cores in its premium tier SoCs because Arm does not sell an alternative that provides comparable functionality" and that "OEMs also benefit from Qualcomm's chips, which are superior to the chips manufactured by other chipmakers." Prof. Posner further states that "Arm benefited from the expansion of the Arm ISA network that occurred as Qualcomm penetrated various chip sectors." However, he fails to recognize the implication for Arm's incentive to foreclose.
- 141. Qualcomm's development of custom CPU cores has allowed Arm to access new applications that were traditionally dominated by x86. For example, in the context of the *Arm v*. *Qualcomm* litigation, Qualcomm's expert Dr. Kennedy stated, "Qualcomm's development of

<sup>349</sup> See, for example, "2023 Patent Litigation Report," Bloomberg Law, <a href="https://pro.bloomberglaw.com/insights/intellectual-property/2023-patent-litigation-report/">https://pro.bloomberglaw.com/insights/intellectual-property/2023-patent-litigation-report/</a> (reporting that "more than 400 patent claims [were] filed in federal district courts and alternative venues in 2022."). See also "Patent Dispute Report: 2024 Mid-Year Report," Unified Patents, July 22, 2024, <a href="https://www.unifiedpatents.com/insights/2024/7/22/patent-dispute-report-2024-mid-year-report">https://www.unifiedpatents.com/insights/2024/7/22/patent-dispute-report-2024-mid-year-report</a>; and Posner, Richard A., "The Law and Economics of Contract Interpretation," 2004, 83 Texas Law Review 1581 ("[S]ignificant interpretive questions often arise in contract litigation."); Benjamin E. Hermalin et al., "Contract Law," in Handbook of Law & Economics, 2007, Vol. 3, No. 68 (ed. A. Mitchell Polinsky & Steven Shavell) ("Probably the most common source of contractual disputes is differences in interpretation [...]").

damages. See "Qualcomm Files GSM Patent Infringement Suit Against Nokia," Qualcomm Press Release, November 6, 2005, <a href="https://www.qualcomm.com/news/releases/2005/11/qualcomm-files-gsm-patent-infringement-suit-against-nokia">https://www.qualcomm.com/news/releases/2005/11/qualcomm-files-gsm-patent-infringement-suit-against-nokia</a>. In 2017, Qualcomm brought a patent infringement lawsuit against Apple asking for damages and a permanent injunction enjoining Apple from infringing the patents at issue. See Complaint, Qualcomm Inc. v. Apple Inc., No. 3:17-cv-01375-JAH-AGS (S.D. Cal. July 6, 2017), <a href="https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/2017-07-06\_complaint.pdf">https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/2017-07-06\_complaint.pdf</a>). More recently, Qualcomm sued Transsion, one of the world's largest smartphone makers, for patent infringement. See Ben Schoon, "Qualcomm is suing Transsion, the largest smartphone maker that doesn't use Snapdragon," 9to5Google, July 12, 2024, <a href="https://9to5google.com/2024/07/12/qualcomm-transsion-lawsuit-report">https://9to5google.com/2024/07/12/qualcomm-transsion-lawsuit-report</a>. Qualcomm's lawsuit with Transsion was settled in January 2025. See Florian Mueller, "BREAKING: Qualcomm settles with China's Transsion (Africa's smartphone market leader): Indian patent lawsuit withdrawn," ip fray, January 16, 2025, <a href="https://ipfray.com/breaking-qualcomm-settles-with-chinas-transsion-africas-smartphone-market-leader-indian-patent-lawsuit-withdrawn/">https://ipfray.com/breaking-qualcomm-settles-with-chinas-transsion-africas-smartphone-market-leader-indian-patent-lawsuit-withdrawn/</a>.

<sup>&</sup>lt;sup>351</sup> Posner Report, ¶¶ 38, 62.

<sup>&</sup>lt;sup>352</sup> Posner Report, ¶ 27.

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

custom CPUs [based on Nuvia technology] should benefit Arm by contributing to the expansion of Arm-compliant products into new segments and markets at the expense of non-Arm competition." <sup>353</sup> In particular, he highlights "Qualcomm's development efforts of its Arm-compatible Oryon CPU cores (the 'Oryon<sup>TM</sup> Cores')," which is opening up the PC segment, traditionally dominated by x86 chips, to Arm-compliant chips. <sup>354</sup> He concludes that "[a]ny market share that Qualcomm gains in the PC market is market share gained for Arm versus x86 alternatives. Further, Qualcomm's sales of Oryon<sup>TM</sup> Cores will generate royalties for Arm under the Arm / Qualcomm ALA. Therefore, Qualcomm's development of the Oryon<sup>TM</sup> Cores will generate additional royalties for Arm from an increased volume of shipments for the PC market."

- 142. Similarly, the SAC states that "Qualcomm's SoCs with custom CPUs compete more effectively against other Arm-compatible products, including those containing off-the-shelf Arm designs, and against rival suppliers of CPUs compatible with other ISAs (notably, Intel's x86)."356
- 143. More broadly, Arm benefits from partnering with ALA customers because a partner's innovation, R&D investment, and marketing efforts expand Arm's ecosystem<sup>357</sup> and increase the

<sup>&</sup>lt;sup>353</sup> Expert Report of Patrick F. Kennedy, February 27, 2024 (hereinafter Kennedy *Arm v. Qualcomm* Report), ¶ 33. *See also id.*, ¶ 56 ("Qualcomm's development efforts and business plans related to the development of custom Arm-compliant CPUs in certain markets will actually benefit Arm.").

<sup>&</sup>lt;sup>354</sup> Kennedy *Arm v. Qualcomm* Report, ¶ 56. *See also id.*, ¶ 63 ("Arm itself recognized that Qualcomm's innovative product could expand Arm's presence in the Windows-based PC market. Upon seeing initial performance reports for Hamoa, Arm concluded that Qualcomm had indeed "invested sufficiently to meaningfully grow the [Windows on Arm] market.").

<sup>&</sup>lt;sup>355</sup> *Id.*, ¶ 64.

<sup>&</sup>lt;sup>356</sup> SAC, ¶ 61.

<sup>&</sup>lt;sup>357</sup> See ARM\_01294236 at '237 (February 2019 presentation describing the vision of the subscription model as a way to create "a business which truly enables customer innovation and focuses on Consumption and Partner success – making Arm the trusted default choice," with benefits for customers ("[g]reater freedom, better product decisions, fair pricing, lower risk & faster TTM [Time to Market]") and for Arm ("[d]eeper customer engagement, greater predictability, more design wins, more revenue"). See also Abbey (Arm) June 2025 Deposition, 29:24-30:7 ("So there would be a technical conversation around capabilities because oftentimes just because somebody wants an architecture, they may not know what it takes to make the architecture successful into a product. And so we care passionately about the ecosystem, about making sure our partners are going to be successful, so we talk about capabilities, we talk about risks, we talk about the expertise of the team."). See also Abbey (Arm) June 2025 Deposition, 145:8-23; ARMQC\_02783619 at '620 ("Landing subscription deals is the first step in a closer engagement with our partners to increase their consumption of Arm technology and share in increased long-term success through royalties.").

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 396 of 616 PageID #: 26889

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

variety of Arm products available to customers.<sup>358</sup> Will Abbey stated in November 2023 that "[t]hirty years on, a core philosophical tenet of Arm's original IP licensing model underpins its expanded subscription strategy to foster innovation: Arm only succeeds when partners succeed."<sup>359</sup> Arm monitors partner investment efforts across the ecosystem and collaborates with its partners to strengthen developer support and education.<sup>360</sup> The flipside is that, should Arm foreclose a partner, Arm's ecosystem would suffer. In fact, Cristiano Amon, Qualcomm's CEO, alleges that Arm's conduct harmed Qualcomm and acknowledged that, as a result, there was harm to Arm's ecosystem.<sup>361</sup>

144. In smartphone applications, Qualcomm is by far the leading chip supplier for premium-tier Android phones.<sup>362</sup> In recent public statements, Qualcomm executives tout that, for premium-tier

361
<sup>362</sup> Qualcomm's smartphone chips are currently custom-made.

<sup>&</sup>lt;sup>358</sup> For example, Apple helped opening the PC segment to Arm. *See* "AI Flywheel Gathering Momentum," UBS Global Research, November 24, 2024 ("Arm's moment on the PC arrived in 2020 with Apple's M1 processor-based Mac family. The initial Arm vs x86 compatibility issues were mitigated by Apple's control of its ecosystem and by the Rosetta binary translation software, while Apple iterated on the hardware design with three further M-series generations. After almost four years, Apple was joined by the launch of Qualcomm-powered PCs from several major brands this year, and with an Nvidia-MediaTek partnership expected to follow into volume production next year. Arm currently holds a 10% unit market share and 17% revenue market share, almost all owing to Apple.").

<sup>&</sup>lt;sup>359</sup> Will Abbey, "Flexible Licensing, Boundless Innovation: How Arm is Accelerating Partner Success," Arm, November 1, 2023, <a href="https://newsroom.arm.com/blog/arm-licensing-models">https://newsroom.arm.com/blog/arm-licensing-models</a>.

<sup>&</sup>lt;sup>360</sup> ARMQC\_02725050 at '068 (A September 2020 presentation discusses partner efforts on the Windows-on-Arm ecosystem and details partner collaborations to provide developer support, including initiatives to facilitate app migration to arm64, engage OEMs, and expand enterprise application readiness).

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 397 of 616 PageID #: 26890

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Android phones, Qualcomm's revenues are five times as large as its next largest rival. <sup>363</sup> Accordingly, reports indicate that Qualcomm's share of premium-tier Android smartphones is as high as about 70%. <sup>364</sup> If Arm were to foreclose Qualcomm, it would cause diversion of premium-tier demand to Apple iPhones and also lead to more lower tier Android phones being sold. <sup>365</sup> Since Arm's royalty revenue per unit sold tends to be higher for higher-end chips, a shift towards less expensive Android phones could reduce Arm's royalty revenue. Such a shift would represent a cost to Arm in any attempt to foreclose Qualcomm. Prof. Posner does not account for these costs in his analysis. Nor does Prof. Posner consider whether Apple has a more favorable ALA deal than

<sup>364 &</sup>quot;Qualcomm Dominates Premium Android Smartphone Chip Market in Q1 2022," Cellit, May 19, 2022, <a href="https://cellit.in/qualcomm-dominates-premium-android-smartphone-chip-market-in-q1-2022/">https://cellit.in/qualcomm-dominates-premium-android-smartphone-chip-market-in-q1-2022/</a> ("Qualcomm's share in the >\$500 band increased from 47% in Q1 2020 to 71% in Q1 2022"). See also Rajesh Pandey, "Qualcomm wants Android device makers to pay even more for its next flagship chip," Yahoo! Tech, December 2, 2024, <a href="https://tech.yahoo.com/phones/articles/qualcomm-wants-android-device-makers-092330024.html">https://tech.yahoo.com/phones/articles/qualcomm-wants-android-device-makers-092330024.html</a> ("Android device makers have no choice but to rely on Qualcomm for sourcing flagship SoCs for their phones and tablets. MediaTek is the only other notable SoC supplier, but its flagship chips are typically behind those of Snapdragon. Its latest Dimensity 9400 changes this, rivaling or coming close to the Snapdragon 8 Elite in most benchmarks and workloads. However, the company needs to prove it can keep this momentum up to win the trust of device makers and consumers. Samsung also has its in-house Exynos division, but its SoCs have been significantly behind the competition in power efficiency and performance. The gap is so big now that Samsung might go all-in with the Snapdragon 8 Elite for the Galaxy S25 series.").



<sup>&</sup>lt;sup>363</sup> "O4 2024 Qualcomm Inc. Earnings Call," Qualcomm, November 6, 2024, pp. 11-12, https://s204.q4cdn.com/645488518/files/doc\_events/2024/Nov/06/QCOM\_Q4FY24EC\_Transcript\_11-7-24.pdf (Mr. Amon stated: "[W]hen we compare with our closest competitor, for example, in Android, our premium tier, we get greater than 5x premium-tier revenue."); "Qualcomm Investor Day 2024: IoT and Automotive Diversification Update," Qualcomm, November 19, 2024, p. 4, https://www.qualcomm.com/content/dam/qcomm-martech/dmassets/images/company/company/events/investor-day-2024/OCOM-Investor-Day-2024-transcript.pdf (Mr. Amon stated: "On handsets as we move on to the next conversations, Snapdragon eight elite, we're incredibly proud of it. It's one of the most powerful processors we've ever done in mobile, is now the industry leader in handsets across every performance category. The world's fastest mobile CPU, world's fastest 5G and Wi-Fi technology, the fastest NPU [Neural Processing Unit]. But I wanted to show you this metric. We have 5X the premium tier revenues on Android relative to the primary competitor[.]"); "Qualcomm Investor Day 2024: IoT and Automotive Diversification Update," Qualcomm, November 19, 2024, https://www.qualcomm.com/content/dam/qcommmartech/dm-assets/images/company/company/events/investor-day-2024/QCOM-Investor-Day-2024-transcript.pdf, p. 24 (Mr. Palkhiwala, Qualcomm's Chief Financial Officer and Chief Operating Officer, stated: "Qualcomm has a very strong presence. If you compare us to our closest competitor, we are two X, the revenue overall and we are more than five X revenue in the premium tier. Snapdragon eight chip is the performance benchmark chip in premium tier in handsets. So we're very happy about that.").

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 398 of 616 PageID #: 26891

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Qualcomm, such that diversion to Apple would lead to a reduction in Arm's margin on the diverted sales.<sup>366</sup>

145. Arm has acknowledged the importance of partners to Arm's success in competing against other ISAs, such as RISC-V. For example, Chloe Ma, Chief Business Officer at Arm, explained in December 2022 that, in targeting development of IoT applications, "we [Arm] also need to leverage our design partners (AADPs [Arm Approved Design Partners], software design services, ISVs [Independent Software Vendor]) as much as possible realizing that we don't have endless resources and we are focusing our resources on client/infrastructure. We need to hold ourselves accountable for proof of concept for the solution approach with the appropriate design point, making sure this approach can deliver the desired benefits for our target customers. But we also need to start thinking about how we can scale this approach to mobilize our large number of partners so that they are also building, promoting and benefiting from this solution-based approach and staying busy on Arm (less time on RISC-V)." 367

146. To further the adoption of Arm technologies, Arm has also designed contracting models that provide customers with broader access to its IP portfolio, enabling them to innovate more effectively and contribute to growing the Arm ecosystem. Arm observed that some customers encountered challenges after licensing specific cores, often realizing mid-design that the selected core is "not the right fit." In response, Arm transitioned to a more flexible, subscription-based licensing model to better accommodate their customers' evolving design needs. As discussed

<sup>&</sup>lt;sup>366</sup> Apple has an ALA with Arm that "extends beyond 2040." *See* "Amendment No. 2 to Form F-1," Arm Holdings plc, September 5, 2023, p. 4, https://www.sec.gov/Archives/edgar/data/1973239/000119312523228059/d393891df1a.htm. [PN00305]

<sup>&</sup>lt;sup>367</sup> ARMQC\_02600713 at '719. *See also* Paul Williamson, "Arm Continues to Accelerate IoT Software Development with New Partnerships," Arm Newsroom, November 7, 2022, <a href="https://newsroom.arm.com/news/arm-continues-to-accelerate-iot-software-development-with-new-partnerships">https://newsroom.arm.com/news/arm-continues-to-accelerate-iot-software-development-with-new-partnerships</a>. *See also* ARM\_00087465, the abstract of a talk by Paul Williamson, Arm's Senior VP and general manager of the Internet of Things line of business, discussing "successful examples to share where we have engaged at a deeper level, worked hand-in-hand with the partner and their ecosystem in delivering on our roadmap, allowing them to enter new markets, become #1 and leverage their investment in Arm for future success."

<sup>&</sup>lt;sup>368</sup> Abbey (Arm) June 2025 Deposition, 86:22-87:23 ([W]e had determined some time ago that the most ec -- equitable way to license our technology is through a subscription, a program which we call ARM Total Access. One of the frustrations that some partners have is, I license this particular core, and after I start a design or I give some considerations to that design, I decide that that's not the right fit. So we moved away from a, you know, sort of this product with this term to more of a broader subscription-based engagements.). *See also* Grisenthwaite (Arm) Deposition, 54:1-55:13.

previously, in 2020, Arm launched ATA, a subscription program offering customers a comprehensive package of IP, tools, models, support, training, software, and physical design resources to help them succeed.<sup>369</sup> In 2019, Arm introduced the AFA, a pay-as-you-go model that allowed customers to access a broad range of Arm technology and tools without paying upfront—only paying license fees for IP used in their final chip design at the point of manufacture.<sup>370</sup> Arm introduced these flexible licensing agreements with the strategic understanding that broader access to its IP would not only empower individual partners but also strengthen and expand the overall Arm ecosystem.<sup>371</sup> This is a procompetitive initiative aimed at expanding the Arm ecosystem.

147. Qualcomm would be particularly important as a partner in growing the Arm ecosystem if, as Qualcomm contends, Arm's chip designs were falling behind alterative cores. For example, the SAC states that "[i]n recent years, as Arm's off-the-shelf implementation cores have fallen behind custom cores developed by other Arm ALA licensees, it has become more challenging for Arm-designed cores. In particular, Arm has been unable to provide an implementation core that is competitive in the compute product segment; thus, the need for developing custom CPUs became more critical." Prof. Posner similarly claims that "Arm's OTS cores [have fallen] further behind

<sup>&</sup>lt;sup>369</sup> ARM\_00080472 at '480; ARMQC\_02770676 at '677; "Arm Holdings plc Q4 FYE25 Investor Presentation," Arm Holdings, May 7, 2025, <a href="https://investors.arm.com/static-files/6bb3def3-ddce-4588-bf81-b5a718973274">https://investors.arm.com/static-files/6bb3def3-ddce-4588-bf81-b5a718973274</a>, p. 19 ("ATA licensees are typically long-term Arm partners and include more than half of our largest customers."). See also ARM\_01294236 at '237, a February 2019 presentation describing the vision of the subscription model as a way to create "a business which truly enables customer innovation and focuses on Consumption and Partner success – making Arm the trusted default choice," with benefits for customers ("Greater freedom, better product decisions, fair pricing, lower risk & faster TTM [Time To Market]") and for Arm ("Deeper customer engagement, greater predictability, more design wins, more revenue").

<sup>&</sup>lt;sup>370</sup> Abbey (Arm) June 2025 Deposition, 144:19-145:13 ("At the low end, through ARM Flexible Access, we're giving broader access to our partners because we want to deepen and broaden the ecosystem."); Will Abbey, "Flexible Licensing, Boundless Innovation: How Arm is Accelerating Partner Success," Arm, November 1, 2023, <a href="https://newsroom.arm.com/blog/arm-licensing-models">https://newsroom.arm.com/blog/arm-licensing-models</a>; "Arm Holdings plc Q4 FYE25 Investor Presentation," Arm Holdings, May 7, 2025, <a href="https://investors.arm.com/static-files/6bb3def3-ddce-4588-bf81-b5a718973274">https://investors.arm.com/static-files/6bb3def3-ddce-4588-bf81-b5a718973274</a>, p. 19 ("[AFA] targeting early-stage companies developing products for markets such as AI accelerators, automotive applications, consumer electronics, robotics and smart sensors.").

<sup>&</sup>lt;sup>371</sup> Abbey (Arm) June 2025 Deposition, 145:8-13; "Arm Flexible Access," Arm, <a href="https://www.arm.com/products/flexible-access">https://www.arm.com/products/flexible-access</a> ("Arm Flexible Access provides up-front, no-cost or low-cost access to a wide range of Arm IP, tools, and training. Experiment and design with the entire portfolio; license fees, if any, are only due at the point of manufacture and calculated only on the IP included in the final SoC design.").

<sup>&</sup>lt;sup>372</sup> SAC, ¶ 58. ■

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 400 of 616 PageID #: 26893

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

custom cores in terms of quality." $^{373}$  In such a situation, losing the benefit of Qualcomm's innovations would be particularly harmful, and would lead to Arm ceding share to alternative ISAs, such as x86 and RISC-V. $^{374}$ 

Furthermore, harming one of its largest customers without cause would harm Arm's

148.

reputation and damage Arm's relationships with other customers. <sup>375</sup> Prof. Posner agrees: "As the
industry observes Arm's mistreatment of Qualcomm, firms will become less willing to invest in
<sup>373</sup> Posner Report, ¶ 58. <i>See also id.</i> , ¶ 38 ("Qualcomm's custom CPUs are 'at the top end of the performance' and 'blow away what's available from Arm on the TLA core site [sic].' Qualcomm uses its own custom cores in its premium tier SoCs because Arm does not sell an alternative that provides comparable functionality.").
<sup>374</sup> I do not opine on Arm's relative performance. I do note that Jeff Vidon, senior director of engineering at Qualcomm, testified that Arm "off-the-shelf" cores may have higher performance or power than Qualcomm custom cores.

https://chicagounbound.uchicago.edu/cgi/viewcontent.cgi?article=2893&context=journal\_articles ("When a dispute over the contract's meaning arises, the parties will first try to resolve it themselves. They will do this not only because of the costs of litigation, but also because of the reputation factor [...] the party demonstrably in the wrong on the interpretive issue will hesitate to force the issue to litigation; he is likely to lose and in any event may acquire a reputation as someone who does not honor his commitments.").

<sup>&</sup>lt;sup>375</sup> For Arm, as for most firms, reputation is key to its commercial success. *See* Arm 2023 Form F-1 ("Our brand and reputation are critical factors in our relationships with customers, employees, governments, suppliers, and other stakeholders. Our failure to address, or the appearance of our failure to address, issues that give rise to reputational risk [...] could significantly harm our brand and reputation. Our reputation can be impacted by catastrophic events, incidents involving unethical behavior or misconduct, product quality, security, or safety issues, allegations of legal noncompliance, internal control failures, corporate governance issues, data breaches, workplace safety incidents, environmental issues, the use of our products for illegal or objectionable applications, including AI and ML or military applications that present ethical, regulatory, or other issues, marketing practices, media statements, the conduct of our suppliers or representatives, and other issues, incidents, or statements that, whether actual or perceived, result in adverse publicity."). *See also* Posner, Richard A., "The Law and Economics of Contract Interpretation," 2004, 83 Texas Law Review 1581,

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 401 of 616 PageID #: 26894

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

the Arm ecosystem. Their incentives to invest are reduced because the more successful they are at designing Arm-compliant chips, the more likely that Arm will try to take their business away from them."<sup>376</sup> However, he fails to recognize that this reduces Arm's incentive to foreclose, as a degraded Arm ecosystem will risk losing sales to x86 and RISC-V. It is important for Arm (as well as for Qualcomm or any firm) to avoid gaining a reputation as a firm that uses the legal system to circumvent or modify contractual commitments to its advantage and at the expense of its partners. Such a reputation would make negotiating future contracts more complex, more time-consuming, and would discourage relationship-specific investments by partners.<sup>377</sup>

<sup>&</sup>lt;sup>376</sup> Posner Report, ¶ 90. *See also id.*, ¶ 78 ("[O]ther licensees will have an incentive to reduce their investment in the Arm ecosystem as they see Arm abuse its own licensees."), ¶ 19 ("Arm's attempts to extend its dominance of the ecosystem will spook even chipmakers who are not pushed out of designing SoCs, by revealing that Arm will no longer keep its commitment to neutrality and openness."). I note that there is no evidence, and Prof. Posner provides none, that "the more successful" an Arm customer is at designing Arm-compliant chips, "the more likely that Arm will try to take their business away from them." In particular, there is no evidence Arm is trying to "take away" Apple's business, which is one of the most successful Arm customers. Arm has recently extended Apple's agreement for many years. *See* Stephen Nellis, "Apple inks new long-term deal with Arm for chip technology, according to filing," Reuters, September 5, 2023, <a href="https://www.reuters.com/technology/apple-inks-new-long-term-deal-with-arm-chip-technology-filing-2023-09-05/">https://www.reuters.com/technology/apple-inks-new-long-term-deal-with-arm-chip-technology-filing-2023-09-05/</a> ("Apple (AAPL.O), has signed a new deal with Arm for chip technology that "extends beyond 2040," according to Arm's initial public offering documents filed on Tuesday. […] The two companies have a long history - Apple was one of the initial companies that partnered to found the firm in 1990. […] Apple was among a number of large technology companies that that on Tuesday invested \$735 million in Arm's initial public offering. Reuters last week was the first to confirm that Apple was among the strategic investors who agreed to buy shares.").

<sup>&</sup>lt;sup>377</sup> Williamson (Arm) Deposition, 246:4-9 ("ARM has a reputation of trust with its partners who build technology based on ARM's technology and services associated with it. Their success is a shared success business with ARM, and trust is an important element of that continuing business practice."). Warren Buffet highlighted the importance of reputation when he said: "We can afford to lose money—even a lot of money. But we can't afford to lose reputation—even a shred of reputation." See Jessica Coacci, "Here's the one-page memo Warren Buffett sent to his managers every two years for over 25 years," Yahoo! Finance, August 6, 2025, <a href="https://finance.yahoo.com/news/one-page-memo-warren-buffett-140107224.html">https://finance.yahoo.com/news/one-page-memo-warren-buffett-140107224.html</a>. See also Deepa Prahalad, "Why Trust Matters More Than Ever for Brands," Harvard Business Review, December 8, 2011, https://hbr.org/2011/12/why-trust-matters-more-than-ev ("[To create value, companies] must create an environment in which people can work well together and where they are engaged with the mission of the firm. They must treat suppliers and collaborators well. They have to give freedom to ask tough questions and experiment with new ideas. Trust is a prerequisite for all of these."); Don Fancher, Jennifer Lee, and Debbie McCormack, "Trust: A Critical Asset," Harvard Law School Forum on Corporate Governance, June 17, 2021, https://corpgov.law.harvard.edu/2021/06/17/trust-a-critical-asset/ ("[Trust] is a critical asset, albeit one that is not reported on the balance sheet or otherwise in the financial statements, as it has no intrinsic value. [...] When invested by leaders in relationships with stakeholders, it enables activities and responses that can help build or rebuild an organization and enable an organization to achieve its intended purpose. Trust can also be created across various groups within the organization—between the board and management, employeremployee, among the workforce, organization and stakeholder, vendors and customers. Conversely, a breach of trust can cause a company to lose significant value.").

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 402 of 616 PageID #: 26895

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

149. Even though Arm's ecosystem partnerships are important to its business model, making foreclosure more costly than Prof. Posner suggests, that does not mean that Arm is or should be obligated or amenable to accept the terms of every proposed partnership. Arm may determine that the terms of a specific proposed agreement are unprofitable and therefore choose not to license its technology under those terms. As discussed earlier in this Section, while having Qualcomm as a partner benefits Arm, that does not mean that Arm should enter into any agreement that Qualcomm proposes: the price needs to be "right," in the sense that it allows both Arm and Qualcomm to benefit from the partnership.

### 2. <u>Qualcomm's Successful Business Diversification Strategy Disincentivizes Arm from Foreclosing Qualcomm</u>

- 150. As described above, foreclosing Qualcomm would harm Arm to the extent that Arm-based Qualcomm chips are diverted to non-Arm alternative ISAs (e.g., x86, RISC-V). This harm would include costs to Arm from losing any future growth related to Qualcomm entering new or growing non-smartphone applications with Arm-based Qualcomm chips sales.
- 151. In November 2021, Qualcomm highlighted its new "diversification strategy" where it would diversify from its strong position in smartphones into other applications and end uses.<sup>378</sup> Qualcomm touted its strategy stating that it was "[u]niquely positioned to grow across multiple industries in addition to handsets" where the other industries included "Automotive," "Consumer IoT" (including personal computers, smartwatches and virtual reality devices), "Industrial IoT,"

<sup>378 &</sup>quot;Qualcomm Inc. Investor Day," Qualcomm, Cristiano Amon, November 16, 2021, pp. 3-4, https://dlio3yog0oux5.cloudfront.net/ 9145a2f999cf4f4b2b0c08721e637935/qualcomm/db/703/7061/file/QCOM-USQ Transcript 2021-11-16 Investor%20Day%20(1).pdf (Mr. Amon stated: "But the key message you're going to see is we're truly diversifying. There's so many new end markets for the company right now, and the market is really moving towards our technology. [...] I want to show you that we'll always be the company defining the pace of innovation in mobile. You know us from mobile. But we're no longer defined by a single end-market and a single customer relationship. While we'll always going to be the company focused in driving innovation in mobile, there's more to Qualcomm."); "Qualcomm Inc., Investor Day," Qualcomm, Cristiano Amon, November 19, 2024, p. 2, https://s204.q4cdn.com/645488518/files/doc events/2024/Nov/19/Qualcomm-Investor-Day-2024 Cristiano StrategicFramework 11-19-24.pdf (Mr. Amon stated: "[W]e outlined a new strategy for the company back in 2021. And we came here to kind of walk to what we have done since then and what we're going to be doing next. [...] So, I want to start by highlighting what is our mission. Our mission is really to enable intelligent computing everywhere we have been on this trajectory, realizing that the technologies we have developed over the many years and continue to develop can be very relevant to a number of different industries beyond mobile. And that is the mission that we have been pursuing since we outlined our strategy back in 2021.").

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 403 of 616 PageID #: 26896

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

and "IoT Edge Networking." <sup>379</sup> Qualcomm estimated that diversification would increase its addressable market from about \$100 billion to \$700 billion over the next decade. <sup>380</sup> This included Qualcomm's belief that it was "[p]ositioned to be the preferred platform for PCs in the inevitable transition to Arm." <sup>381</sup>

152. As detailed above, Qualcomm has publicly reported very strong financial performance in its non-smartphone segments during 2024 and 2025.<sup>382</sup> In fact, in its most recent November 2024 Investor Day presentation, Qualcomm executives provided an update on its diversification strategy, which Mr. Amon summarized as follows:

[I]n summary, this is how we feel about the incredible opportunity ahead for Qualcomm. We have put a [diversification] strategy in [20]21. We're not changing our strategy. We've just been busy executing on that strategy. And it's working.<sup>383</sup>

153. Consistent with this, Mr. Palkhiwala stated at the 2024 Investor Day that by 2029 he expected Qualcomm's non-smartphone revenue to increase to 50% of its total revenue (up from 32% at the end of 2021):

<sup>&</sup>lt;sup>379</sup> "Qualcomm Inc. Investor Day Presentation Deck," Qualcomm, Cristiano Amon, November 16, 2021, pp. 6, 58, <a href="https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/+Investor Day 2021 CAmon PDF.pdf">https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/+Investor Day 2021 CAmon PDF.pdf</a>.

<sup>&</sup>lt;sup>380</sup> "Qualcomm Inc. Investor Day Presentation Deck," Qualcomm, Cristiano Amon, November 16, 2021, p. 8, <a href="https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/+Investor Day 2021 CAmon PDF.pdf">https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/+Investor Day 2021 CAmon PDF.pdf</a>, (">7X addressable market expansion over the next decade.") and p. 10 ("Expanding TAM and diversification while increasing margins and stockholder returns[.]").

<sup>&</sup>lt;sup>381</sup> "Qualcomm Inc. Investor Day Presentation Deck," Qualcomm, Cristiano Amon, November 16, 2021, p. 38, <a href="https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/+Investor Day 2021 CAmon PDF.pdf">https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/+Investor Day 2021 CAmon PDF.pdf</a>.

<sup>&</sup>lt;sup>382</sup> See Section VI.A.

<sup>383 &</sup>quot;Qualcomm Investor Day 2024: IoT and Automotive Diversification Update," Qualcomm, November 19, 2024, p. 3, <a href="https://s204.q4cdn.com/645488518/files/doc\_events/2024/Nov/19/QCOM\_Investor-Day-2024\_transcript\_11-19-24\_FINAL.pdf">https://s204.q4cdn.com/645488518/files/doc\_events/2024/Nov/19/QCOM\_Investor-Day-2024\_transcript\_11-19-24\_FINAL.pdf</a> (Mr. Amon further stated that the goal was "to be continuing to transform Qualcomm into a diversified growth leader in the industry."). See also "Qualcomm Investor Day 2024 Presentation Deck," Qualcomm, Cristiano Amon, November 19, 2024, p. 27, <a href="https://s204.q4cdn.com/645488518/files/doc\_events/2024/Nov/19/Qualcomm-Investor-Day-2024\_Cristiano\_StrategicFramework\_11-19-24.pdf">https://s204.q4cdn.com/645488518/files/doc\_events/2024/Nov/19/Qualcomm-Investor-Day-2024\_Cristiano\_StrategicFramework\_11-19-24.pdf</a> (Further, the presentation deck used by Mr. Amon touted "key takeaways" such as "[s]uccessfully executing against our diversification strategy" with "[s]ignificant opportunity for growth across target industries" and "[g]rowing ecosystem of new customers and partners." His deck ultimately concluded that these factors were "[t]ransforming Qualcomm into a diversified growth leader.").

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 404 of 616 PageID #: 26897

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

I want to quantify the long-term target for our diversification plan. We are targeting a mix of 50 over 50 by the end of the decade. For handset and non-handsets, and we believe this transformation will be highly value accretive.<sup>384</sup>

- 154. Qualcomm confirmed that it is on track to hit its aggressive diversification goal. As Mr. Amon described in July 2025: "Another quarter of strong growth in QCT Automotive and IoT revenues further validates our diversification strategy and confidence in achieving our long-term revenue targets[.]" 385
- 155. Qualcomm's recent success and expected future growth in these non-smartphone applications benefits Arm in at least two ways. First, in some cases—such as virtual reality devices—Qualcomm is expanding into application areas where, absent its involvement, the volume of trade would be smaller or the speed of progress slower.<sup>386</sup>

<sup>384 &</sup>quot;Qualcomm Investor Day 2024: IoT and Automotive Diversification Update," Qualcomm, November 19, 2024, p. 27, https://s204.q4cdn.com/645488518/files/doc\_events/2024/Nov/19/QCOM\_Investor-Day-2024\_transcript\_11-19-24 FINAL.pdf. See also "Qualcomm Sets New Growth Targets, Showcasing Company's Opportunity as On-Device AI Accelerates Demand for its Technologies," Qualcomm Inc., Press Release, November 19, 2024, https://investor.qualcomm.com/news-events/press-releases/news-details/2024/Qualcomm-Sets-New-Growth-Targets-Showcasing-Companys-Opportunity-as-On-Device-AI-Accelerates-Demand-for-its-Technologies/default.aspx ("Qualcomm Incorporated (NASDAQ: QCOM), a connected computing leader, today outlined its significant opportunities for growth and diversification at its 2024 Investor Day. The company's unique position at the edge is driving access to an expanded TAM [Total Addressable Market] of approximately \$900 billion by 2030, with more than 50 billion cumulative connected edge device shipments expected from 2024 through 2030. 'Qualcomm's focus on diversification and industry-leading technology roadmap has significantly strengthened the Company's growth profile,' said Cristiano Amon, President & CEO, Qualcomm Incorporated. 'As generative AI accelerates demand for our technology and we become increasingly relevant across multiple industries, Qualcomm is well positioned to address a \$900 billion opportunity by 2030 across an expanding ecosystem of new customers and partners.""). See Qualcomm Incorporated, Form 10-Q, for the quarterly period ended December 26, 2021, p. 11, https://s204.q4cdn.com/645488518/files/doc\_financials/2022/q1/0001728949-22-000012.pdf (Qualcomm QCT revenue by segment reported for Q4 2021).

<sup>385 &</sup>quot;Qualcomm Announces Third Quarter Fiscal 2025 Results," Qualcomm, July 30, 2025, p. 1, https://s204.q4cdn.com/645488518/files/doc\_financials/2025/q3/FY2025-3rd-Quarter-Earnings-Release.pdf. See also, "Q3 2025 Qualcomm Inc. Earnings Call," Qualcomm, July 30, 2025, pp. 2, 12, https://s204.q4cdn.com/645488518/files/doc\_events/2025/Jul/30/Q3FY25-Earnings-Call-Transcript\_7-30-25\_Final.pdf (Mr. Amon stating: "Our chipset business delivered revenues of \$9 billion, reflecting strength in Automotive and IoT and ongoing growth in Handsets. Automotive and IoT revenues increased 21% and 24% year over year, respectively. [...] Our momentum in Automotive and IoT is the result of strong execution of our growth and diversification strategy. We remain on track to meet our fiscal 2029 target for combined Automotive and IoT revenues of \$22 billion. [...] We feel that the company is on the right trajectory, especially as we look for growth and diversification beyond Handsets and AI continues to be a great opportunity for us.").

<sup>&</sup>lt;sup>386</sup> "Keynote: Unlocking Innovation with RISC-V and Qualcomm - Ziad Asghar," RISC-V International, YouTube, November 29, 2023, at 4:23, <a href="https://www.youtube.com/watch?v=9h9LwkPnrUw&ab\_channel=RISC-VInternational">https://www.youtube.com/watch?v=9h9LwkPnrUw&ab\_channel=RISC-VInternational</a>

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 405 of 616 PageID #:

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

<sup>387</sup> In both scenarios, Arm benefits significantly from its partnership with Qualcomm—whether through expanded market opportunities in emerging applications or through retained volume that might otherwise shift to competing ISAs. Foreclosing Qualcomm would mean forfeiting these growing advantages, making such a strategy economically costly for Arm, particularly in the long term.

#### 3. <u>Prof. Posner's Diversion Analysis Is Incomplete and Ignores Important Foreclosure</u> Costs that Arm Would Incur

- 156. Prof. Posner analyzes diversion briefly and incompletely. <sup>388</sup> He ignores important competitive constraints that Arm faces (as discussed above in Section V) as well as important foreclosure costs that Arm would incur if it were to pursue the strategy he hypothesizes.
- 157. As an initial matter, Prof. Posner focuses his diversion analysis only on the supply of chips in the data center segment, as shown in his Figure 3. In his diversion setup, he presents a scenario where Qualcomm effectively is already in the "market" for data center chips, and "Arm enters the data center chip sector [by] licensing itself to manufacture Arm-compliant chips" and thereby "competes with Qualcomm." In reality, Arm is about 1.5 to two years ahead of Qualcomm in developing a data center chip. This means that Arm can expect to earn profits from data center chips well before Qualcomm even enters (if ever) with its own chip. Arm can earn

(Ziad Asghar (Qualcomm) stating: "if you pick up any device that does virtual reality, and a device that matters, it's actually based on Snapdragon.").

<sup>38/</sup> 

<sup>&</sup>lt;sup>388</sup> Posner Report, ¶ 70 and Figure 3.

<sup>&</sup>lt;sup>389</sup> Posner Report, ¶ 69.

<sup>&</sup>lt;sup>390</sup> Section VIII.B.1.

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 406 of 616 PageID #: 26899

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

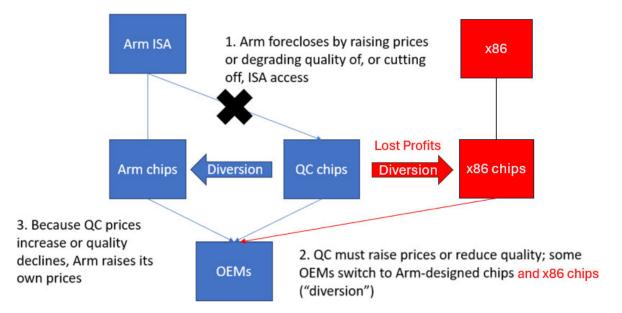
profits without any diversion from Qualcomm over this period. In other words, Arm's ability to earn profits from its data center chip does not depend on any purported foreclosure of Qualcomm.

158. Further, Prof. Posner's Figure 3 completely disregards diversion from Qualcomm's Armbased data center chips to chips based on non-Arm ISAs, such as Intel's x86 ISA. This is a critical oversight since x86 is the dominant architecture in data centers. Diversion to data center chips based on x86 would represent a significant cost to Arm, as Arm would lose the margin it earns on Qualcomm's Arm-based chips. <sup>392</sup> Prof. Posner completely ignores this cost. In **Exhibit 3**, I modify Prof. Posner's Figure 3 to properly account for diversion to x86, illustrating the lost profits that Arm would suffer. <sup>393</sup> The revised exhibit shows that, if Arm were to cut off Qualcomm's access to Arm's ISA, OEMs would likely respond by not only purchasing other Arm-based data center chips (if available) but also by purchasing more x86-based chips, on which Arm earns no profit at all.



<sup>&</sup>lt;sup>393</sup> The logic represented in Prof. Posner's Figure 3 suffers from other infirmities which are addressed elsewhere in my report. My modification to his figure is simply done to highlight a critical oversight related to his representation of diversion.

**Exhibit 3: Diversion in Data Centers (Modified Prof. Posner Figure 3)** 



Red boxes and red text have been added to Prof. Posner's original Figure 3.

159. More generally, if Arm were to foreclose Qualcomm "completely" by "cutting off" access to the Arm ISA,<sup>394</sup> as Prof. Posner considers in his Figure 3, then Qualcomm would be foreclosed from using Arm-based technology for data centers, as well as all other downstream applications, including smartphones and personal computers.<sup>395</sup> To properly account for this, in my **Exhibit 4**, I expand Prof. Posner's Figure 3 to account for additional paths of Qualcomm's diverted sales. By excluding diversion to these additional paths, Prof. Posner's analysis overstates Arm's ability to profitably recapture Qualcomm's volume and understates the full foreclosure cost to Arm. These additional diversion paths include:

<sup>&</sup>lt;sup>394</sup> Posner Report, ¶ 70 and Figure 3 ("If Arm is able to cut off technology supply for Qualcomm completely, then Arm loses its upstream margins on the Qualcomm license. However, Arm would gain downstream sales and the downstream margins that they produce, assuming that Arm is a viable competitor in the downstream market either through organic entry or through acquisitions. Figure 3 illustrates these dynamics."). As noted above in Section VII, Prof. Posner also considers partial foreclosure of Qualcomm. Regardless of whether the alleged foreclosure is full or partial, the lost profits from diversion that I depict in **Exhibit 4** properly apply.

<sup>&</sup>lt;sup>395</sup> The Snapdragon 8 Elite for mobile (i.e. smartphone) and Snapdragon X Elite for PC are also developed based on the customized Arm-based Oryon CPU. *See* "Qualcomm Oryon CPU," Qualcomm, <a href="https://www.qualcomm.com/products/technology/processors/oryon">https://www.qualcomm.com/products/technology/processors/oryon</a>, accessed August 20, 2025.

- Qualcomm sales diverted to x86 and RISC-V: For these sales, Arm would forfeit its entire royalty fees from Qualcomm, with no opportunity for recapture.<sup>396</sup> In reality, OEMs facing reduced access to Qualcomm's Arm-based chips are likely to consider switching to x86 or RISC-V solutions, especially in segments where those architectures are established (e.g., x86 in data centers and PC and RISC-V in IoT).<sup>397</sup> Such diversion is particularly relevant given Qualcomm's stated plans to transition away from Arm ISA to RISC-V (discussed in Section VIII.D.3).
- *Qualcomm sales diverted to Apple:* For those Qualcomm sales lost to Apple, Arm may earn less depending on the difference between the royalty it earned from Qualcomm and the royalty it earns from Apple. Prof. Posner does not consider this possibility.
- Qualcomm sales diverted to chips for lower-end smartphones: Qualcomm accounts for a high share (70%) of premium-tier Android smartphones, <sup>398</sup> which typically generate higher royalties for Arm. <sup>399</sup> Thus, Qualcomm smartphone chip sales diverted to chip sales for lower-end smartphones would result in lower royalties for Arm.
- Qualcomm sales for innovative customer products that are lost: Qualcomm touts that its
  industry-leading chips are used in cutting-edge innovative customer products such as
  virtual reality devices.<sup>400</sup> If Qualcomm were foreclosed, some of these products may be

<sup>&</sup>lt;sup>396</sup> In addition, as discussed in Section VII.C.1, any attempt by Arm to foreclose Qualcomm could damage Arm's reputation and ecosystem, leading to additional lost sales with its other customers, as these customers pivot instead to x86 or RISC-V. These additional lost sales are not shown in **Exhibit 4**.

<sup>&</sup>lt;sup>397</sup> "Why RISC-V is Inevitable, Calista Redmond, RISC-V International," RISC-V International, April 6, 2023, at 8:33, <a href="https://www.youtube.com/watch?v=ktjSvlelKPk&ab\_channel=RISC-VInternational">https://www.youtube.com/watch?v=ktjSvlelKPk&ab\_channel=RISC-VInternational</a> ("So, consumer and IoT devices, this is again one of the areas that has been home to RISC-V for some time. The Android open source project, as far as other companies who've been bringing RISC-V into earbuds and other consumer devices. Microchip you know coming through with their portfolio. SiFive on wearables, smart home, VR, industrial IoT.").

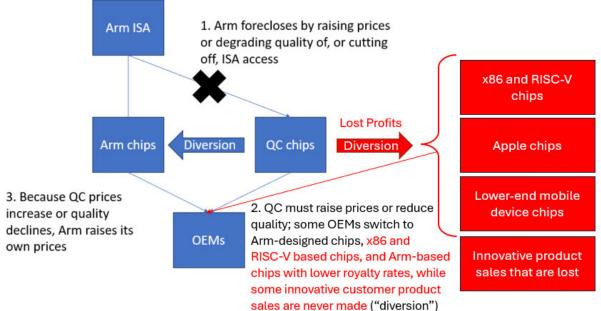
<sup>&</sup>lt;sup>398</sup> "Qualcomm Dominates Premium Android Smartphone Chip Market in Q1 2022," Cellit, May 19, 2022, <a href="https://cellit.in/qualcomm-dominates-premium-android-smartphone-chip-market-in-q1-2022/">https://cellit.in/qualcomm-dominates-premium-android-smartphone-chip-market-in-q1-2022/</a> ("Qualcomm's share in the >\$500 band increased from 47% in Q1 2020 to 71% in Q1 2022").

<sup>&</sup>lt;sup>399</sup> Conversation with Paul Williamson (Arm's Senior Vice President and General Manager of the IoT Line of Business), September 2, 2025.

<sup>&</sup>lt;sup>400</sup> "Keynote: Unlocking Innovation with RISC-V and Qualcomm - Ziad Asghar," RISC-V International, YouTube, November 29, 2023, at 4:23, <a href="https://www.youtube.com/watch?v=9h9LwkPnrUw&ab\_channel=RISC-VInternational">https://www.youtube.com/watch?v=9h9LwkPnrUw&ab\_channel=RISC-VInternational</a> (Ziad Asghar (Qualcomm) stating: "if you pick up any device that does virtual reality, and a device that matters, it's actually based on Snapdragon."); "Qualcomm Investor Day 2024: IoT and Automotive Diversification Update,"

delayed in coming to market or come to market with lower quality—resulting in lost sales (i.e., the volume of trade would be smaller). For these lost sales, Arm would forfeit its entire royalty fees from Qualcomm, with no opportunity for recapture.

**Exhibit 4: Diversion in All Applications (Modified Prof. Posner Figure 3)** 



Red boxes and red text have been added to Prof. Posner's original Figure 3.

Cristiano Amon, November 19, 2024, <a href="https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/images/company/company/events/investor-day-2024/QCOM-Investor-Day-2024-transcript.pdf">https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/images/company/company/events/investor-day-2024/QCOM-Investor-Day-2024-transcript.pdf</a>, pp. 3, 5, 6 ("We're incredibly proud in this company about the technology roadmap of Qualcomm. [...] It is the industry leading technology roadmap for both at the system level and semiconductors at the edge. [...] The next one is what is happening with XR [extended reality devices]. [...] And we have now every single design win across everyone that is building those [smart glasses] devices. [...] I want to talk about AI at the edge. [...] It's a generation opportunity for Qualcomm. [...] We built a platform in mobile, but now with AI, we believe we can further differentiate. We're uniquely positioned to have AI and automotive."). See also Posner Report, ¶ 62 ("OEMs also benefit from Qualcomm's chips, which are superior to the chips manufactured by other chipmakers.") and ¶ 77 (describing Qualcomm's experience in developing "leading edge" chips.); "Virtual Reality: Transforming the way we experience reality," Qualcomm, <a href="https://www.qualcomm.com/products/mobile/snapdragon/xr-vr-ar/virtual-reality-vr">https://www.qualcomm.https://www.qualcomm.com/products/mobile/snapdragon/xr-vr-ar/virtual-reality-vr</a> ("The Snapdragon XR2 Gen 2 Platform powers next-generation MR and VR for all with amazing performance and groundbreaking on-device AI"); "The 5 Best Features of the Meta Quest 3," Qualcomm, January 12, 2024, <a href="https://www.qualcomm.com/snapdragon/news/the-5-best-features-of-the-meta-quest-3">https://www.qualcomm.com/snapdragon/news/the-5-best-features-of-the-meta-quest-3</a>.

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 410 of 616 PageID #:

#### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY

#### SUBJECT TO PROTECTIVE ORDER

160. Prof. Posner states that Arm has an incentive to foreclose Qualcomm because the "short term" costs from foreclosure are more than outweighed by the "long term" benefits. 401 He does not explain why costs are incurred in the short run and benefits materialize in the long run. In fact, a number of costs are incurred in the long run, e.g., the loss of Arm's reputation, harm to Arm's ecosystem, and the fact that an attempt by Arm to foreclose customers would accelerate the development of alternatives such as RISC-V. Similarly, benefits to Arm may occur at the same time as its loss of Qualcomm royalty. For example, if Samsung were to switch from Qualcomm chips to MediaTek chips, the increase in royalty payments from MediaTek may very well occur at the time the lost royalty payments from Qualcomm would have occurred. Therefore, the alleged anticompetitive effects may very well have net benefits or be neutral in the "short term" and have net costs in the "long term."

161. In conclusion, Prof. Posner's diversion analysis fails to account for critical economic realities that undermine his foreclosure theory. His narrow focus on data center chips overlooks diversion to competing ISAs such as x86 and RISC-V, which would result in lost royalties for Arm. He disregards the timing mismatch between Arm's and Qualcomm's chip launches. Moreover, when extended to other applications, the analysis omits additional diversion paths—including sales lost to Apple and lower-tier devices, and lost sales of innovative products—all of which may further increase the cost of foreclosure. By excluding these factors, Prof. Posner overstates Arm's ability to recapture Qualcomm's volume and understates the economic costs Arm would incur, rendering his analysis incomplete and unreliable.

<sup>40</sup> 

<sup>&</sup>lt;sup>401</sup> Posner Report, ¶ 13 ("Arm seeks to drive Qualcomm away from designing custom cores, even if it means Arm loses royalties on those custom cores in the short term, because Arm's margins on selling and/or licensing its own cores, chips and SoCs would be higher in the long term than the margins on existing ALA licenses—and Arm is unhappy with the level of royalties that Qualcomm is required to pay under the ALA. Moreover, although Qualcomm has historically been one of Arm's most important customers, it appears that Arm is willing to sacrifice the licensing fees and product royalties that it can obtain from supporting Qualcomm in launching products because, in the long term, Arm believes that through engaging in anticompetitive conduct to push Qualcomm to rely on OTS cores, or out of the ecosystem entirely, it will gain more profits from either its own chips or from TLA royalties than it will lose in ALA royalties.") and ¶ 87 ("As customers flee Qualcomm to Arm, Arm will lose money in foregone royalties in the short term. But, Arm hopes to obtain larger margins in the long term as it takes over Qualcomm's business or Qualcomm is pushed to increasingly make use of Arm's OTS cores.").

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 411 of 616 PageID #:

#### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY

#### SUBJECT TO PROTECTIVE ORDER

#### D. Foreclosure of Qualcomm Alone Would Unlikely Be Profitable for Arm

- 162. While Qualcomm is a large customer, it accounts for only about 10% of Arm's total revenue. A foreclosure strategy aimed solely at Qualcomm is unlikely to be effective, as the potential benefits are tied specifically to Qualcomm's sales, whereas the costs (reputational and other) would affect the broader Arm business.
- 163. As discussed in the previous sections:
  - i. The benefits from the alleged foreclosure of Qualcomm are the incremental profits that Arm makes on the recaptured sales, i.e., the sales that divert from Qualcomm custom chips to Arm's OTS cores and Arm's own chips, compared to the profits that Arm would have made on those diverted sales in the absence of foreclosure.
  - ii. The costs are the profits lost by Arm on sales that divert to another ISA (e.g., x86 and RISC-V) or to lower margin Arm-based chips (e.g., low-end Android smartphones), the loss of ecosystem benefits due to Qualcomm not making custom cores using Arm's ISA, and Arm's loss of reputation as a reliable partner. The first cost affects a portion of Arm's sales to Qualcomm, but the other two costs affect Arm's entire business, i.e., go beyond Qualcomm's sales.
- 164. Quantifying these benefits and costs is hard (and neither I nor Prof. Posner attempt to quantify them), but they are no less real to the profitability of Arm's business than the costs that Prof. Posner discusses in his report. By omitting these costs from his analysis, Prof. Posner reaches a biased and unreliable conclusion.

#### VIII. PROF. POSNER HAS NOT DEMONSTRATED THAT ARM'S CONDUCT IS ANTICOMPETITIVE

165. Prof. Posner claims that Arm's conduct towards Qualcomm constitutes anticompetitive behavior. He states that "it appears that Arm is willing to sacrifice the licensing fees and product royalties that it can obtain from supporting Qualcomm in launching products because, in the long

<sup>&</sup>lt;sup>402</sup> SAC, ¶ 57 ("Qualcomm is today one of Arm's largest licensees—it 'accounted for 10% of [Arm's] total revenue for [Arm's] fiscal year ended March 31, 2024.""). *See also* ARMQC 00000640 at '646.

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 412 of 616 PageID #: 26905

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

term, Arm believes that through engaging in anticompetitive conduct to push Qualcomm to rely on OTS cores, or out of the ecosystem entirely, it will gain more profits from either its own chips or from TLA royalties than it will lose in ALA royalties."<sup>403</sup> However, Prof. Posner provides no evidence for his claims and bases his conclusion on stylized theoretical models of vertical interactions without linking them to the industry at issue or the facts in this case.

#### A. Arm Protecting the Terms of Its Contracts Is Procompetitive

166. The SAC states that "[s]ome of Arm's maneuvers resulted in a trial that took place last year before this Court. [...] That case arises primarily from Arm's attempt to use Qualcomm's acquisition of the startup NUVIA Inc. ("NUVIA") as a pretext for escaping the QC ALA."<sup>404</sup> Prof. Posner hardly mentions the Nuvia acquisition despite its central role in this dispute, but does state that "Qualcomm contends that Arm has engaged in a number of unfair acts and practices, including threatening to terminate Qualcomm's ALA [...]."<sup>405</sup>

167. Arm's conduct—including its decision to initiate litigation against Qualcomm and its use of consent provisions in licensing agreements with Nuvia—reflects a commercially reasonable and procompetitive effort to protect its IP and clarify contractual obligations. In innovation-driven industries, legal enforcement is a standard mechanism for resolving disputes and preserving incentives for investment and cooperation. Whereas Qualcomm's claims conflate ordinary commercial disagreement with anticompetitive behavior, Arm's business practices reinforce the integrity of its licensing model and support the continued growth of its ecosystem. 406

#### 1. Contract Enforcement Is a Legitimate Procompetitive Action

168. There is no evidence that Arm initiated the *Arm v. Qualcomm* litigation for anticompetitive purposes. Rather, evidence shows that Arm acted to protect its IP and the associated revenue potential. I do not opine on whether Qualcomm or Arm breached the Qualcomm and Nuvia

<sup>&</sup>lt;sup>403</sup> Posner Report, ¶ 13.

<sup>&</sup>lt;sup>404</sup> SAC, ¶ 6.

<sup>&</sup>lt;sup>405</sup> Posner Report, ¶ 13.

<sup>&</sup>lt;sup>406</sup> Qualcomm itself aggressively protects its IP through lawsuits and requests of injunctive relief. *See* footnote 350.

agreements with Arm, and I have been instructed by Counsel for Arm to assume the disagreement with Qualcomm concerning the correct interpretation of various terms of Qualcomm and Nuvia agreements with Arm reflects Arm's genuine views of Arm's, Qualcomm's, and Nuvia's contractual obligations. In that context, pursuing legal action is a standard and appropriate means of resolving commercial disputes. The conduct that Qualcomm characterizes as anticompetitive is, in fact, consistent with a firm seeking to protect its IP and enforce its rights under the terms of its agreements.

169. Clarity on contractual terms is essential in industries where IP and licensing frameworks are central to innovation—particularly in high-technology sectors. Enforcing and interpreting contracts through the legal system is not only lawful but also promotes investment, cooperation among firms, and long-term ecosystem stability. 407 If licensees were permitted to disregard contractual obligations, it would undermine the value of IP, weaken incentives for future investment in ISA development, and ultimately harm innovation and consumer welfare. 408

https://www.judiciary.senate.gov/imo/media/doc/Testimony%20-%20Giles%20-%202022-06-22.pdf.

<sup>&</sup>lt;sup>407</sup> Spulber, Daniel F., "How do Competitive Pressures Affect Incentives to Innovate When There Is a Market for Inventions?," Journal of Political Economy, 2013 Vol. 121, No. 6, pp. 1007-1054, at p. 1007 ("When IP is not fully appropriable, markets for inventions are limited and competitive pressures can decrease incentives to innovate."). See also Baumol, William J. and 18 other leading economics scholars, "Supreme Court Amicus Brief Regarding Morgan Stanley Capital Group Inc. v. Public Utility District No. 1 of Snohomish County, Washington," December 2007, pp. 8-10, https://appext.hks.harvard.edu/publications/getFile.aspx?Id=451 ("Economists have long recognized that certainty of contract is essential to a healthy economy. [...] Those contracts can only accomplish that goal, however, if parties know the contracts will be enforced. [...] The 'fundamental function of contract law' is to 'encourage the optimal timing of economic activity' by 'deter[ring] people from behaving opportunistically toward their contracting parties.' Richard A. Posner, Economic Analysis of Law 91 (4th ed. 1992). [...] That function cannot be accomplished without effective means for enforcement. As this Court has stated: 'Market efficiency requires effective means to enforce private agreements.' Am. Airlines, Inc. v. Wolens, 513 U.S. 219, 230 (1995).").

<sup>&</sup>lt;sup>408</sup> Qualcomm has publicly emphasized the importance of strong IP rights in driving innovation. As stated on its website, robust IP protections "[encourage] investment in research and development by companies and individuals." See "Invention and Intellectual Property [-] Protecting the value of invention," Qualcomm, https://www.qualcomm.com/company/corporate-responsibility/acting-responsibly/public-policy/ourpositions/invention-and-intellectual-property, accessed August 28, 2025. Robert Giles, Senior Vice President and Chief Intellectual Property Counsel of Qualcomm similarly testified before the U.S. Senate that courts should be empowered to grant injunctions in appropriate cases to deter "efficient infringement"—a strategy where companies knowingly use patented inventions without seeking a license, assuming they will only be liable for royalties if sued. "Statement of Robert Giles Senior Vice President and Chief Intellectual Property Counsel Qualcomm Incorporated On Behalf of the Innovation Alliance," Hearing on The Patent Trial and Appeal Board: Examining Proposals to Address Predictability, Certainty, and Fairness, Before the Subcommittee on Intellectual Property, Committee of the Judiciary, United States Senate, pp. 3 and 7, June 22, 2022,

#### 2. Clause 16.3 of Arm's Agreement with Nuvia Has Procompetitive Justifications

170. Arm's decision to grant Nuvia a license with specific terms is based on careful consideration of the benefits and costs to Arm and the broader impact on its ecosystem. Clause 16.3 of Arm's agreement with Nuvia, which required Arm's consent before any transfer of Nuvia's technology to Qualcomm (or any other acquiring firm), allowed Arm to evaluate the implications of a potential acquisition and ensure that its IP would continue to be used in a manner consistent with its licensing strategy, ecosystem goals, and revenue objectives.<sup>409</sup>

171. It is possible that, in a but-for world without clause 16.3, a mutually beneficial agreement could not have been reached. The clause provided Arm with a mechanism to assess the implications of a potential acquisition and mitigate risks to its ecosystem and profitability. Without this safeguard, Arm may have been unwilling to accept the lower upfront fees and higher running royalties that characterized the Nuvia agreement. In turn, this could have led to less innovation and fewer competitive CPU designs, particularly if Arm were unwilling to license to startups like Nuvia. The clause is therefore procompetitive. 410

#### B. Arm's Entry into the Chip Design Stage of the Value Chain Is Procompetitive

172. Qualcomm claims that Arm has shifted from a neutral licensing model to becoming a direct chip competitor. The SAC and Prof. Posner argue that "[f]or years, Arm expressed its commitment to an open, neutral model for licensing the use of its ISA," and this model "benefited the software developers, which could develop software that would be interoperable across Arm-compatible devices, and ultimately benefited customers" and "also benefited Arm, leading to widespread

<sup>&</sup>lt;sup>409</sup> Arm's CEO testified that such a clause is "standard." *See* Rene Haas (Arm) testimony in *Arm v. Qualcomm*, Trial Transcript Vol 2.1, December 16, 2024, 165:7-19.

<sup>&</sup>lt;sup>410</sup> Conversation with Paul Williamson (Arm's Senior Vice President and General Manager of the IoT Line of Business), September 2, 2025, explaining that the clause protects the value of Arm's IP investment and that, without the clause, Arm would need to develop an alternative licensing model to ensure the returns Arm needs to continue investing to address the expanding demand for increasingly complex uses of its ISA. Without the clause, Arm may have also found it necessary to shorten the length of its ALA contracts and become more vertically integrated.

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 415 of 616 PageID #: 26908

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

adoption of the ISA."<sup>411</sup> Qualcomm also argues that, more recently, "Arm has pivoted away from that model," transforming itself "from licensing intellectual property to positioning itself primarily as a chip designer," including by "planning to launch its own chip by as early as this summer [in 2025]."<sup>412</sup> These claims are unfounded, as I explain below.

- 1. The Start of the Alleged Foreclosure Significantly Predates Arm's Data Center Chip Launch
- 173. Qualcomm and Prof. Posner argue that Arm's entry into chip design for data centers exacerbates Arm's incentive to foreclose Qualcomm, 413 suggesting that Arm seeks to divert Qualcomm's volume to its own, more profitable chips. 414 The timing and uncertainty surrounding Arm's chip launch undermine this claim.
- 174. Arm has not yet begun delivering its data center chips and its ultimate commercial success remains uncertain. 415

  The alleged foreclosure also began four years before Qualcomm even

<sup>&</sup>lt;sup>411</sup> SAC, ¶ 68. *See also* Posner Report, ¶¶ 80-90.

<sup>&</sup>lt;sup>412</sup> SAC, ¶¶ 69-70. *See also* Matthew Garrahan, Tim Bradshaw, and David Keohane, "Arm to launch its own chip in move that could upend semiconductor Industry," Financial Times, February 13, 2025, <a href="https://www.ft.com/content/95367b2b-2aa7-4a06-bdd3-0463c9bad008">https://www.ft.com/content/95367b2b-2aa7-4a06-bdd3-0463c9bad008</a>. *See also* QCVARM\_0600104 at '122, "Complaint Against Arm Holdings Plc by Qualcomm Incorporated," Paul Weiss, December 19, 2024, discussing Arm's strategic decision to increase investments in compute subsystems and to "move up the semiconductor food chain and become a chip maker itself."

<sup>&</sup>lt;sup>413</sup> SAC, ¶ 35 (stating that "[t]o facilitate its entry into selling its own chips, Arm now seeks to force Qualcomm—which would otherwise be a competitor—out from the marketplace."); Id., ¶ 71.

<sup>&</sup>lt;sup>414</sup> Posner Report, ¶ 71 ("[I]f Arm is a viable competitor downstream and is able to capture even some small portion of diverted sales from Qualcomm, that creates additional incentive to foreclose Qualcomm. This is because downstream margins on chip sales to data centers are likely to be higher than upstream margins for licensing. The more of Qualcomm's potential share that Arm can capture after foreclosing Qualcomm, the stronger its incentive to foreclose Qualcomm.").

<sup>&</sup>lt;sup>415</sup> Will Abbey (Arm) describes the inherent uncertainty in R&D timing, particularly in the context of the v10 ALA. He explained that "the reality of engineering milestones is, six months could become eight months, could become a year, it could become two years. All that needs to happen is, during verification, there's a defect. And so if you're building a product and a business around engineering delivering a given product in a given time, I'd say, start with what we've got. And so I would be cautious about entering into those conversations early." *See* Abbey (Arm) June 2025 Deposition, 34:16-24.

<sup>&</sup>lt;sup>416</sup> Qualcomm finalized Nuvia's acquisition in March 2021. *See* "Qualcomm Completes Acquisition of NUVIA," Qualcomm, March 15, 2021, <a href="https://www.qualcomm.com/news/releases/2021/03/qualcomm-completes-acquisition-">https://www.qualcomm.com/news/releases/2021/03/qualcomm-completes-acquisition-</a>

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 416 of 616 PageID #: 26909

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

announced its *intention* to produce a data center chip. 417 The significant time gap and the uncertainty about outcomes are further evidence that Arm's potential launch of its own data center chip is unlikely to be part of a purported "broad scheme" to foreclose Qualcomm, or that it created any incentives to foreclose Qualcomm years before Arm's chips reached the market. 418 Indeed, Prof. Posner does not identify *any* document linking the launch of Arm's chip designs to the alleged foreclosure of Qualcomm. The absence of such evidence reinforces the conclusion that Arm's entry into chip design was a procompetitive response to evolving customer demand.

#### 2. Vertical Integration Is Common and Typically Beneficial

175. Prof. Posner claims that Arm's entry into chip design reflects a strategy to "drive Qualcomm away from designing custom cores, or to drive Qualcomm out of selling chips and SoCs entirely." However, this interpretation ignores the widespread and often procompetitive nature of vertical integration in technology markets.

Vertical integration—where a firm operates at multiple levels of the supply chain—is

	· ·	•	•	11.	
widespread and	typically beneficial.	Qualcomm itself i	s vertically integ	rated, licensing its IP	while
also selling its o	wn chips.				
				Arm's model, v	vhich
nuvia;					

176.

<sup>417</sup> In May 2025 Qualcomm announced its first data center chip in partnership with NVIDIA. *See* Sebastian Moss, "Qualcomm Announces Data Center CPUs, Will Support Nvidia's NVLink Fusion," Data Center Dynamics, May 20, 2025, <a href="https://www.datacenterdynamics.com/en/news/qualcomm-announces-data-center-cpus-will-support-nvidias-nvlink-fusion/">https://www.datacenterdynamics.com/en/news/qualcomm-announces-data-center-cpus-will-support-nvidias-nvlink-fusion/</a>. As described later in this Section, Qualcomm's data center chip won't arrive until fiscal year 2028, about seven years after the alleged foreclosure began.

<sup>&</sup>lt;sup>418</sup> As described later in this Section, Arm's data center chip won't arrive until 2026, a full five years after the alleged foreclosure began.

<sup>&</sup>lt;sup>419</sup> Posner Report, ¶ 13.

<sup>&</sup>lt;sup>420</sup> "Q2 2025 Qualcomm Inc. Earnings Call," Qualcomm, April 30, 2025, p. 10, <a href="https://s204.q4cdn.com/645488518/files/doc\_events/2025/Apr/30/QCOM\_Q2FY25EC\_Transcript\_5-1-25.pdf">https://s204.q4cdn.com/645488518/files/doc\_events/2025/Apr/30/QCOM\_Q2FY25EC\_Transcript\_5-1-25.pdf</a>. See <a href="https://s204.q4cdn.com/645488518/files/doc\_events/2025/Feb/05/QCOM\_Q1FY25EC\_Transcript\_2-5-24.pdf">https://s204.q4cdn.com/645488518/files/doc\_events/2025/Feb/05/QCOM\_Q1FY25EC\_Transcript\_2-5-24.pdf</a>, and

involves licensing its ISA and now designing chips for data center applications, mirrors this dynamic and is consistent with industry norms.

177. Vertical integration is commonplace in a variety of industries, with upstream firms often competing in the downstream markets with their own customers, without foreclosing them. The commonplace nature of benign vertical integration is described in a recent academic paper: "Examples include Apple and Microsoft, selling their products directly in their stores in addition to using retailers such as Best Buy and Walmart; Nike and Adidas, selling their products directly online in addition to using retailers such as Foot Locker and Macy's; and television networks, like HBO and ESPN, selling their content directly through their online platforms, HBO Now and ESPN+, in addition of selling their content to cable companies such as Comcast and Time Warner Cable." 421

178. This blend of competition and cooperation is commonly referred to as "coopetition," and is a widespread phenomenon in modern business. For example, Samsung and Apple are "fierce" rivals in the smartphone industry, yet Samsung—one of the leading screen manufacturers—has supplied screens for iPhones for years, dating back to the iPhone 4. Despite

Kwon, Yona, Dahee Kang, Sinji Kim, and Seungho Choi, "Coopetition in the SoC Industry: The Case of Qualcomm Incorporated," Journal of Open Innovation: Technology, Market, and Complexity, 2020, Vol. 6, No. 1, p. 1 ("Although most of the firms seem to compete against each other to maintain their advantage continuously, firms also often cooperate with their competitors even while competing. Especially in a high-tech industry where technological innovation and change in products are fast, it is difficult to cope with global competitors with a single, static strategy. In other words, a dynamic competition and cooperation between firms is necessary to sustain a firm's competitive advantage. [...] The competitive behavior of Qualcomm thus should be understood as dynamic interactions in which Qualcomm both competes with and cooperates with its rivals. These interactions with their rivals do not occur alone but are intertwined and interrelated with one another.").

<sup>&</sup>lt;sup>421</sup> Donna, Javier D., Pedro Pereira, Yun Pu, Andre Trindade, and Renan C. Yoshida, "Direct sales and bargaining," RAND Journal of Economics, 2024, Vol. 55, No. 4, pp. 749–787.

<sup>&</sup>lt;sup>422</sup> See Brandenburger, Adam M. and Barry J. Nalebuff, "The Rules of Co-opetition," Harvard Business Review, 2021.

<sup>&</sup>lt;sup>423</sup> Richard Grisenthwaite, Chief Architect at Arm, testified that "as is common with many companies in this industry, we have elements in which we cooperate and then elements in which we compete with companies that we work with. [...] [S]ome elements of ARM very actively cooperate with its ALA customers and some elements of ARM more clearly compete with them, yes. [...] ARM creates its own core implementations consistent with the ARM architecture and those cores end up competing with cores created by our ALA customers." *See* Grisenthwaite (Arm) Deposition, 23:15-24:10.

<sup>&</sup>lt;sup>424</sup> Imogen Beech, "6 real-life coopetition examples," Breezy, September 6, 2023, <a href="https://breezy.io/blog/coopetition-examples">https://breezy.io/blog/coopetition-examples</a>. See also Haroun Adamu, "Did you know: Samsung makes a lot of

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 418 of 616 PageID #: 26911

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

competing directly in end products, the two companies continue to collaborate where it is mutually beneficial.

179. There are many procompetitive effects from vertical integration. *First*, vertical integration may allow an input supplier to gain valuable implementation experience that helps them improve their own products, benefiting consumers. Arm's CEO, Rene Haas, recently made this very point. Addressing speculation about Arm's potential entry into AI chip design, Mr. Haas explained that an important reason for Arm's integration into chip design is to gain a better understanding of the link between hardware and software: "it's easier to do if you're building something than if you're licensing IP" where "you're much closer to that interlock and have a much better perspective in terms of the design tradeoffs to make. So, if we were to do something, that would be one of the reasons."

money from iPhones," Android Authority, June 11, 2025, <a href="https://www.androidauthority.com/did-you-know-samsung-apple-partnership-3426411/">https://www.androidauthority.com/did-you-know-samsung-apple-partnership-3426411/</a>.

various parts of production, ensures tighter quality control, and ensures a better flow and control of information across the supply chain."). *See also* Yang, Chenyu, "Vertical Structure and Innovation: A Study of the SoC and Smartphone Industries," The RAND Journal of Economics, 2022, Vol. 51, No. 3, pp. 739–785 (Studying a hypothetical vertical merger between Qualcomm and HTC (a smartphone manufacturer) finding that it "can increase innovation and welfare, mainly driven by the investment coordination of the merged firms.").

<sup>&</sup>lt;sup>425</sup> See, for example, "Qualcomm Incorporated 2009 and Qualcomm Incorporated 2011 Update," Harvard Business School Teaching Notes, May 25, 2011, p. 4, <a href="https://hbsp.harvard.edu/product/711463-PDF-ENG">https://hbsp.harvard.edu/product/711463-PDF-ENG</a> ("Qualcomm has been willing to move downstream into end products in order to demonstrate proof of concept. While other IP firms only do technology (which sometimes creates problems in implementation, such as Rambus), Qualcomm repeatedly created end-user products and systems to show that the technology could really work."); Tom Simonite, "With Its Own Chips, Apple Aims to Define the Future of PCs," Wired, November 10, 2020, <a href="https://www.wired.com/story/own-chips-apple-aims-define-future-pcs/">https://www.wired.com/story/own-chips-apple-aims-define-future-pcs/</a> ("Making its own mobile processors has

helped Apple innovate with such features as facial recognition and augmented reality on the iPhone. Designing its own chips for devices like the MacBooks and Mac Mini announced Tuesday should also allow Apple to be more creative with PCs. [...] When chip, device, and software engineers work closely together they can squeeze more performance out of a device than is possible with an off-the-shelf chip."). See also Khadija Khartit, "When Does It Make Sense for a Company to Pursue Vertical Integration?" Investopedia, February 6, 2025, <a href="https://www.investopedia.com/ask/answers/012715/when-does-it-makes-sense-company-pursue-vertical-integration.asp">https://www.investopedia.com/ask/answers/012715/when-does-it-makes-sense-company-pursue-vertical-integration.asp</a> ("Vertical integration makes sense as a strategy, as it allows a company to reduce costs across

<sup>&</sup>lt;sup>426</sup> Exhibit 10 of Haas (Arm) Deposition ("If you are defining a computer architecture and you're building the future of computing, one of the things you need to be very mindful of is that link between hardware and software. You need to understand where the trade-offs are being made, where the optimizations are being made, and what are the ultimate benefits to consumers from a chip that has that type of integration. That is easier to do if you're building something than if you're licensing IP. This is from the standpoint where if you're building something, you're much closer to that interlock and you have a much better perspective in terms of the design trade-offs to make. So, if we were to do something, that would be one of the reasons we might.").

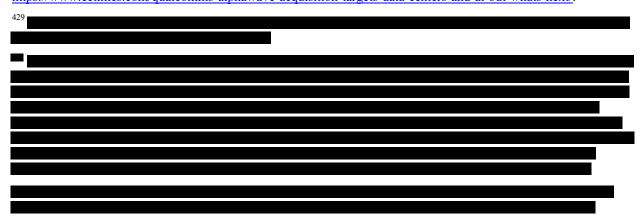
### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 419 of 616 PageID #: 26912

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

180. *Second*, Arm's entry into chip design increases competition, expanding product variety and potentially leading to lower prices and more rapid innovation, which in turn benefits consumers. While Arm's entry into data center chip design has the potential to harm Qualcomm by "stealing" volume from Qualcomm, this "stealing," if it in fact occurs, is the essence of competition. 427,428 Qualcomm points to a chat among Arm managers where Mr. Haas commented that Arm's competitors would be "hosed" if Arm were to build its own chips. 429 While framed in colloquial terms, the statement reflects the essence of competition, which is striving to create a product that customers prefer to the alternatives produced by rivals.

181.	Third,	Qual	comm ar	nd Pr	of. Posner provid	e no evid	ence to su	pport th	eir	claim	s that Arm
moved	into	chip	design	for	anticompetitive	reasons	(seeking	profit	is	not	inherently
anticon	npetitiv	/e).									

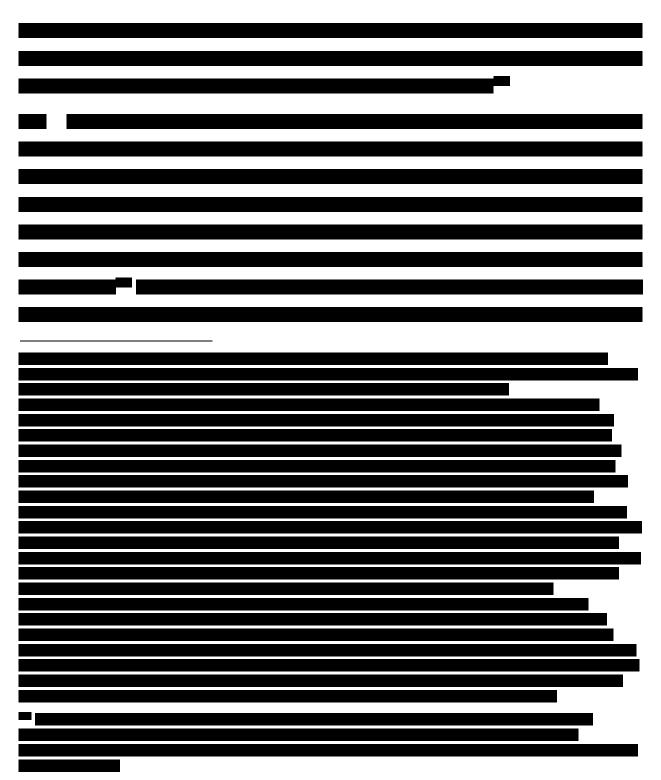
<sup>&</sup>lt;sup>428</sup> Qualcomm has until now not been successful in the data center space. However, as "part of a broader strategy from Qualcomm to diversify its business," in May 2025, it announced its plans "to launch a custom CPU for the data center that can connect to Nvidia's GPUs and software." *See* Arjun Kharpal, "Qualcomm to launch data center processors that link to Nvidia chips," CNBC, May 19, 2025, <a href="https://www.cnbc.com/2025/05/19/qualcomm-to-launch-data-center-processors-that-link-to-nvidia-chips.html">https://www.cnbc.com/2025/05/19/qualcomm-to-launch-data-center-processors-that-link-to-nvidia-chips.html</a>. Qualcomm's recent acquisition of Alphawave Semi is also part of its strategy to expand in the data center space. *See* Majeed Kamran, "Qualcomm's Alphawave Acquisition Targets Data Centers and AI, But What's Next?" EE Times, June 9, 2025, <a href="https://www.eetimes.com/qualcomms-alphawave-acquisition-targets-data-centers-and-ai-but-whats-next/">https://www.eetimes.com/qualcomms-alphawave-acquisition-targets-data-centers-and-ai-but-whats-next/</a>.



<sup>&</sup>lt;sup>427</sup> Competition on the merits may harm to rivals. In *United States v. Aluminum Co. of Am.*, 148 F.2d 416, 430 (2d Cir. 1945), Judge Hand famously captured the idea that competition harms rivals by stating that it would be contrary to the spirit of the antitrust laws to punish a firm that led to the exit of its rivals as a result of its "superior skill, foresight and industry."

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 420 of 616 PageID #: 26913

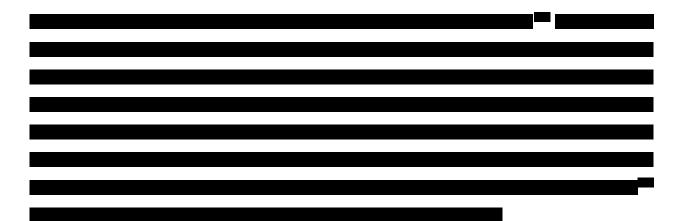
# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER



<sup>432 &</sup>quot;Infrastructure" refers to data centers.

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 421 of 616 PageID #: 26914

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER



183. *Fourth*, Arm's chip design is currently focused on data centers, where Arm-based chips have a very low share. This is consistent with Mr. Awad's testimony and suggests that foreclosure of Qualcomm was not a motive for the decision to move into chip design. <sup>435</sup> Furthermore, Qualcomm has indicated that it is not expected to begin selling data center chips until fiscal year 2028. <sup>436</sup> Prof. Posner does not explain why, if foreclosure of Qualcomm was indeed a motivating factor behind Arm's integration into chip design, Arm would not have begun with segments where Qualcomm has a larger presence. In other words, starting its "broad scheme" to harm Qualcomm in a segment where Qualcomm does not currently generate any revenue seems ineffective and irrational.

184. *Fifth*, other firms in the industry have similarly engaged in verticalization. For example, as Paul Williamson testified, "AWS as a cloud vendor now build[s] their own silicon, rather than purchasing off-the-shelf silicon from other vendors. So that has been a verticalization trend in the

 $<sup>^{435}</sup>$  Prof. Posner acknowledges that "the requirements of each sector are unique." Posner Report, ¶ 60. This implies that Arm entry in a given application does not affect competition in other applications.

<sup>&</sup>lt;sup>436</sup> "Q3 2025 Qualcomm Inc. Earnings Call," Qualcomm, July 30, 2025, p. 4, <a href="https://s204.q4cdn.com/645488518/files/doc\_events/2025/Jul/30/Q3FY25-Earnings-Call-Transcript\_7-30-25\_Final.pdf">https://s204.q4cdn.com/645488518/files/doc\_events/2025/Jul/30/Q3FY25-Earnings-Call-Transcript\_7-30-25\_Final.pdf</a> (Mr. Amon explained: "Now I would like to provide an update on our expansion into the data center. This represents a new growth opportunity for Qualcomm and is a logical extension of our diversification strategy as we continue to demonstrate leadership in CPU performance and NPU efficiency. [...] While we are in the early stages of this [data center] expansion, we are engaged with multiple potential customers and are currently in advanced discussions with a leading hyper-scaler. If successful, we expect revenues to begin in the fiscal '28 timeframe.").

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 422 of 616 PageID #:

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

infrastructure market."<sup>437</sup> Similarly, Apple in 2020 vertically integrated upstream into computer chip design with the launch of its Arm-based M1 chip.<sup>438</sup>

- 185. Prof. Posner further alleges that Arm's entry might discourage customers from sharing confidential information.<sup>439</sup> These claims are speculative and unsupported. He does not provide any evidence on the existence or extent of this issue but instead simply cites the FTC's complaint on Nvidia's acquisition of Arm.<sup>440</sup> However, the FTC's opinion in that case did not result in a Court decision and thus is not evidence.<sup>441</sup> On this claim, I further note the following:
  - *First*, Prof. Posner does not provide any quantification, i.e., he does not explain how much less confidential information would be shared in a world where Arm engages in chip design for data centers compared to a world where Arm only designs OTS cores and CSS, nor does he identify the impact on product development.

<sup>&</sup>lt;sup>437</sup> Williamson (Arm) Deposition, 96:3-9.

<sup>&</sup>lt;sup>438</sup> "Apple announces Mac transition to Apple silicon," Apple Newsroom, June 22, 2020, <a href="https://www.apple.com/newsroom/2020/06/apple-announces-mac-transition-to-apple-silicon/">https://www.apple.com/newsroom/2020/06/apple-announces-mac-transition-to-apple-silicon/</a>; "Apple unleashes M1," Apple Newsroom, November 10, 2020, <a href="https://www.apple.com/newsroom/2020/11/apple-unleashes-m1/">https://www.apple.com/newsroom/2020/11/apple-unleashes-m1/</a>. Abbey (Arm) June 2025 Deposition, 152:11-25 (Abbey testified to the trend of OEMs vertically integrating into chip production: "The market is shifting the same way that we know that a company like Apple has a vertical integration and a Silicon team that has the ability to produce chips. The market is shifting. And so Apple is a good example. Tesla is a good example. Xiaomi is an example. And so if you do have a silicon team that's enhoused within the OEM – [...] -- then, you know, who is paying royalties? It's the OEM. So as the -- as the marketplace shift, as the world shifts, we adapt to the changes that we are seeing in the marketplace. We simply want to broaden. We want to broaden the engagements that we have with all customers that consume ARM technology.").

<sup>&</sup>lt;sup>439</sup> Posner Report, ¶ 19 ("As part of its traditional business model, Arm meets with its chipmaker customers to learn their business plans and technological needs so that it can improve the ISA. […] But if those customers believe that Arm may start competing with them in their line of business, they will be reluctant to share confidential information, which in turn will retard the development of Arm's ISA.").

<sup>&</sup>lt;sup>440</sup> Posner Report, ¶ 89.

<sup>&</sup>lt;sup>441</sup> The FTC has lost various vertical merger litigations, indicating that the FTC is not infallible in its conclusions. *See*, for example, *Federal Trade Commission v. Tempur Sealy International and Mattress Firm Group Inc.*, U.S. District Court, Southern District of Texas, Civil Action No. 4:24-cv-02508, Opinion and Order Denying Motion for Preliminary Injunction, January 31, 2025, Case 4:24-cv-02508, Dkt. Entry 511 ("For the reasons specified below, the motion for a preliminary injunction is denied. [...] The merger's effect here (like most vertical mergers) is instead likely to be either neutral or procompetitive, with the cumulative effect of certain remedial commitments attendant to the merger reasonably addressing any lingering concerns."); Swagath Bandhakavi, "FTC ends legal challenge against Microsoft's \$69bn Activision Blizzard acquisition," Tech Monitor, May 23, 2025, <a href="https://www.techmonitor.ai/digital-economy/big-tech/ftc-microsoft-activision-blizzard-deal">https://www.techmonitor.ai/digital-economy/big-tech/ftc-microsoft-activision-blizzard-deal</a> ("The FTC decided to drop the case following the dismissal of its appeal for a preliminary injunction, concluding that continuing the challenge against the already completed acquisition would not align with public interest objectives.").

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 423 of 616 PageID #: 26916

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

- Second, Prof. Posner does not address why the same concerns he raises wouldn't apply to Arm's OTS cores or CSS. He does not explain why Arm's ALA customers would not already be reluctant to share confidential information that Arm could potentially use to develop its OTS cores, that indirectly compete with Qualcomm's custom cores. The absence of any evidence indicating such reluctance suggests that ALA customers are currently willing to share information and are likely to continue doing so even after Arm begins selling its own chips. 442
- Third, even assuming that Prof. Posner is correct about partners becoming more reluctant to share confidential information, that would not make Arm's entry at the chip design stage anticompetitive. Prof. Posner fails to acknowledge that Arm's entry increases competition and improves Arm's ecosystem (by demonstrating that Arm-based chips are

<sup>442</sup> A possible reason why Prof. Posner's concern does not appear to affect transactions is that Arm limits the transmission of confidential information across the ALA and TLA teams. Ms. Bhattacharya, Senior Director of Engineering within the Architecture and Technology Group at Arm, stated that there are "concerns about sharing confidential information between parties."

a viable alternative to x86), which is procompetitive. He would need to balance any alleged anticompetitive effect with the procompetitive effects of entry.<sup>443</sup>

- Fourth, if Prof. Posner is correct that Arm's entry into chip design would "retard the development of Arm's ISA,"444 that would represent a cost to Arm, who would risk losing sales to x86 and RISC-V. Prof. Posner acknowledges this cost, but fails to draw its implications in terms of reducing the profitability of foreclosure, and thus on Arm's incentive to foreclose. This cost would be particularly high if Prof. Posner is correct that "[t]he functionality of chips depends more on the microengineering choices of chip designers like Qualcomm than on the underlying ISA."445 Regardless, contrary to Prof. Posner's claim, there is no evidence that Arm's entry into data center chip design has "retarded" the development of Arm's ISA.
- *Fifth*, Arm is developing chips for data centers, 446 and is experimenting with chips for automotive applications, 447 but it does not plan to develop chips for smartphones or PCs. 448 Qualcomm and Apple are already active and successful in producing chips for mobile and PC, limiting Arm's incentive to sell chips for those applications. Prof. Posner does not explain why the concern he raises is significant in light of the fact that Arm is

<sup>&</sup>lt;sup>443</sup> This is the balancing that is generally done for mergers, both horizontal and vertical. For example, the upward pricing pressure from a horizontal merger would need to be compared to merger-specific efficiencies before a conclusion that a merger harms consumers can be reached. In the case of vertical mergers, the elimination of double marginalization and other merger-specific efficiencies need to be assessed before one can conclude that they are insufficient to eliminate any potential harm to competition.

<sup>&</sup>lt;sup>444</sup> Posner Report, ¶ 19.

<sup>&</sup>lt;sup>445</sup> Posner Report, ¶ 22. The only basis Prof. Posner offers for this definitive statement is the testimony of a Qualcomm employee, "Gerard Williams, Qualcomm Senior VP Engineering."

<sup>&</sup>lt;sup>447</sup> Williamson (Arm) Deposition, 125:18-22 ("[W]e've engaged and considered building for a lead partner in the automotive division, silicon for the ADAS [Advanced Driver Assistance Systems] market for a potential lead customer called Waymo.").

<sup>&</sup>lt;sup>448</sup> Williamson (Arm) Deposition, 125:18-126:4, 128:15-132:2, 175:11-25 (explaining that there are "[n]o active chips or silicon support development in the PC market" and that discussions by Arm with OEM mobile vendors have not extended to providing them a completed chip, but that "[Arm's] focus has been what we call compute subsystems.").

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 425 of 616 PageID #: 26918

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

not planning to enter segments representing the large majority (70%) of Qualcomm's revenue.<sup>449</sup>

- 186. Finally, I highlight that there is a significant difference between a vertical merger and the entry of an existing supplier into stages of the value chain that are further downstream. Antitrust agencies generally see a firm's organic entry into downstream stages of the supply chain as procompetitive because it adds a new competitor which tends to increase competition, increase variety, and eliminate double marginalization even if it can create incentives to raise rival input costs.<sup>450</sup>
- 187. In summary, vertical integration is a widely adopted and often procompetitive strategy across many industries. Arm's entry into chip design mirrors similar moves by firms like AWS, Apple, and Qualcomm, which operate at multiple levels of the supply chain. Such integration can enhance innovation, increase product variety, and eliminate inefficiencies like double marginalization. Rather than harming competition, Arm's expansion reflects standard industry practice and is a natural response to evolving customer needs.

#### 3. Arm's Ecosystem Remains Open

188. Prof. Posner wrongly claims that Arm recently pivoted from a "longstanding business model" that is "open" and "neutral" to a "different model, one in which it forecloses customers in

<sup>&</sup>lt;sup>449</sup> Posner Report, ¶¶ 25, 64 ("Though mobile handsets comprise around 70% of Qualcomm's revenue, Qualcomm has penetrated the other chip sectors to varying degrees, including automotive, virtual reality (VR) and augmented reality (AR) devices, wearables (e.g., smartwatches and smartglasses), and IoT."). Prof. Posner states that "[f]or *illustrative* purposes, I focus on the data center sector, though Arm's intentions to sell SoCs extend beyond the data center sector," but provides no support for this claim (emphasis added)).

<sup>&</sup>lt;sup>450</sup> For example, an FTC press release on legislations prohibiting direct sales to consumers by auto manufacturers stated: "According to the comments by staff from the FTC's Office of Policy Planning, Bureau of Competition, and Bureau of Economics, current laws in both jurisdictions 'operate as a special protection for [independent motor vehicle dealers] – a protection that is likely harming both competition and consumers.' [...] 'FTC staff offer no opinion on whether automobile distribution through independent dealerships is superior or inferior to direct distribution by manufacturers. [...] [C]onsumers are the ones best situated to choose for themselves both the cars they want to buy and how they want to buy them."' *See* "Missouri and New Jersey Should Repeal Their Prohibitions on Direct-to-Consumer Auto Sales by Manufacturers," Federal Trade Commission, Press Release, May 16, 2014, <a href="https://www.ftc.gov/news-events/news/press-releases/2014/05/ftc-staff-missouri-new-jersey-should-repeal-their-prohibitions-direct-consumer-auto-sales">https://www.ftc.gov/news-events/news/press-releases/2014/05/ftc-staff-missouri-new-jersey-should-repeal-their-prohibitions-direct-consumer-auto-sales</a>.

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 426 of 616 PageID #: 26919

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

sectors that Arm seeks to enter." <sup>451</sup>
As described below, Prof. Posner also ignores important evidence that Arm
continues to maintain an open business model and its entry into data center chips is procompetitive.
189. First, contrary to Prof. Posner's claim, there is no evidence that Arm will not negotiate
ALA licenses. In fact, Arm has several such existing agreements. Arm has recently signed an ALA
with Nuvia in 2019, and since then with large, sophisticated customers such as Apple, IBM, and
Google. <sup>453</sup> Prof. Posner provides no evidence, and in fact makes no claim, that Arm had ceased
offering ALAs to other existing ALA customers. Even for Qualcomm, as recently as August 29,
2025, Arm responded to Qualcomm's August 8, 2025, letter with a set of "initial questions"
regarding the terms outlined in Qualcomm's "proposed Annex 1 to the ALA for Arm's unreleased
451 Posner Report, ¶ 66 ("Arm is pivoting from its open, neutral model—where it treats its customers in a nondiscriminatory manner, benefits from attracting as many licensees as possible, and therefore provides adequate

<sup>&</sup>lt;sup>451</sup> Posner Report, ¶ 66 ("Arm is pivoting from its open, neutral model—where it treats its customers in a nondiscriminatory manner, benefits from attracting as many licensees as possible, and therefore provides adequate support to its licensees—to a different model, one in which it forecloses customers in sectors that Arm seeks to enter."), ¶ 19 ("Arm will no longer keep its commitment to neutrality and openness"), ¶ 86 ("More than a decade later, Arm's ISA has reached such a level of dominance that licensees can no longer easily walk away. Now Arm seeks not only to raise royalty rates, but to design and manufacture SoCs, in a "dramatic departure from its traditional business model."), ¶ 87 ("Arm has already threatened to terminate Qualcomm's ALA, reversing its longstanding business model as the 'Switzerland of chips,' so that it can both increase the royalty rate, as it has done for the TLA, and take Qualcomm's SoC business.").

<sup>&</sup>lt;sup>453</sup> Ehab Youssef identified IBM and Apple as partners that signed an ALA since 2019. *See* (Youssef (Arm) Deposition, 31:1-22); Google signed an ALA in June 2021 (ARM\_01428339). *See also* ARM\_00119603. Prof. Posner himself recognizes that "[i]n addition to Qualcomm, Arm licenses its architecture to a dozen or so other firms, including Apple, HiSilicon, IBM, Fujitsu, Ampere, T-Head, and BRJX." Posner Report, ¶ 24.

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 427 of 616 PageID #:

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

v10," and reaffirmed its intention to "move the negotiations forward." As of the submission of this report, Qualcomm maintains both a TLA and an ALA with Arm. 455

190. *Second*, in paragraph 88 of his expert report, Prof. Posner wildly mischaracterizes a statement made by Mr. Haas, claiming that Mr. Haas stated that Arm no longer wished to keep its prior commitments to customers and instead planned to "cut off" ALA licensees. Prof. Posner states:

Arm's CEO, Rene Haas, has recently confirmed that Arm no longer wishes to keep its prior commitments and instead plans to cut off ALA licensees and sell SoCs directly to OEMs, such as data centers, automobile companies, and mobile phone manufacturers. Rene Haas said that Arm's interest in whether to accept a prospective customer depends on "whether your business is a chip business [such as Qualcomm] or a product business." 456

191. To support his claim—which is critical to his antitrust narrative—Prof. Posner cites to a *single source*: a YouTube interview of Mr. Haas conducted in October 2024.<sup>457</sup> Contrary to Prof. Posner's characterization, the interview he cited makes no mention of ALAs or any licensing agreements whatsoever. Mr. Haas certainly did not state that Arm broke prior commitments or cut off ALA licenses. Prof. Posner's claims are simply disconnected from the plain language of Mr. Haas' answer. Below is the full quote cited by Prof. Posner, with the portion that he directly quotes in bold:

<sup>&</sup>lt;sup>454</sup> ARMQC\_02785287 (August 29, 2025, letter from Spencer Collins (Arm) to Ann Chaplin (Qualcomm)) at '287 – '290. In the same letter, Arm reiterated its offer of "an in-person meeting between the commercial teams," noting that "we have now offered [the meeting] three separate times." *Id.* at '290. On June 13, 2025, Arm reiterated to Qualcomm that "Arm remains prepared to negotiate in good faith over the terms of a license to the v10 architecture." *See* ARMQC\_02771127. In the same letter, Arm further told Qualcomm that its "offer to meet remains open and Arm continues to believe that such a meeting would be the most efficient path forward in response to Qualcomm's request [for a v10 license]. Please have the relevant business personnel respond to Mr. Abbey with dates that Qualcomm is available for such a meeting."

<sup>&</sup>lt;sup>455</sup> QCVARM 1014030; QCARM 3474751.

<sup>&</sup>lt;sup>456</sup> Posner Report, ¶ 88 (emphasis added).

<sup>&</sup>lt;sup>457</sup> "Arm CEO on Intel, Chips, AI, Listing in US," Bloomberg Technology, YouTube, October 22, 2024, <a href="https://www.youtube.com/watch?v=6FnBz8rxWUY">www.youtube.com/watch?v=6FnBz8rxWUY</a>, at 15:20-16:00.

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 428 of 616 PageID #: 26921

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

You know, first thing on, competing with our customers, you know, it's rather complicated because if you look at some of our customers, our customers are Amazon. Our customers are Microsoft. Our customers are Apple. Our customers are Tesla. They all build chips using ARM. I'm not going to build an electric car. I'm not going to build a phone. I'm not going to build a data center. So, to look at the value chain relative to who builds chips, relative to whether your end business is a chip business or a product business. It's gotten a lot more gray. We follow what the industry is demanding, and what the industry wants to see is solutions getting to market faster. And that's what we're focused on. 458

192. In fact, two of the four Arm customers that Mr. Haas mentioned (Apple and Microsoft) have ALAs with Arm. 459 So not only does Mr. Haas not talk about cutting off access to Arm's ISA, he highlights two customers that have active and ongoing access to Arm's ISA.



For example, Android remains an open-source mobile operating system even though Google—the owner and primary developer of Android—also makes and sells Android Pixel phones. 460 Arm has long supplied customers at multiple levels of the supply chain. For over a decade, Arm has offered OTS cores (through its TLAs) to customers such as Qualcomm, and more recently Arm has entered CSS agreements with Samsung, MediaTek, and Nvidia. 461 Prof. Posner makes no claims that Arm's sale of OTS cores and CSS is inherently anticompetitive. In fact, although Prof. Posner seeks to conflate vertical integration with the shift

<sup>&</sup>lt;sup>458</sup> "Arm CEO on Intel, Chips, AI, Listing in US," Bloomberg Technology, YouTube, October 22, 2024, <a href="https://www.youtube.com/watch?v=6FnBz8rxWUY">www.youtube.com/watch?v=6FnBz8rxWUY</a>, at 15:20-16:00. For completeness, I include a full transcript of Mr. Haas' interview in **Appendix** C.

<sup>&</sup>lt;sup>459</sup> Weidmann (Arm) Deposition, 35:9-36:14 (identifying eight ALA customers: Qualcomm, Apple, HiSilicon, IBM, Fujitsu, Ampere, T-HEAD and BRJX). *See also* ARM\_00119603. Microsoft also has an ALA; *see* ARM\_01427719 (Microsoft ALA dated May 19, 2010), ARM\_01427776 (Microsoft ALA dated March 23, 2017), ARM\_01427796 (Microsoft ALA dated September 3, 2020).

<sup>&</sup>lt;sup>460</sup> See Ben Schoon, "Google Pixel grows in US, settling into top 4 spot ahead of Pixel 10 launch," 9to5google, July 28, 2025, <a href="https://9to5google.com/2025/07/28/google-pixel-us-market-share-q2-2025/">https://9to5google.com/2025/07/28/google-pixel-us-market-share-q2-2025/</a>; "Understanding Android," Android, <a href="https://www.android.com/everyone/facts/">https://www.android.com/everyone/facts/</a>, accessed August 29, 2025.

<sup>&</sup>lt;sup>461</sup> See Rene Haas, "Arm Holdings Plc Q3 2025 Earnings Call," February 5, 2025, <a href="https://investors.arm.com/static-files/f1190d81-408d-4276-a30c-b27c1ce5a30a">https://investors.arm.com/static-files/f1190d81-408d-4276-a30c-b27c1ce5a30a</a>, p. 4 and Rene Haas, "Arm Holdings Plc Q1 2026 Earnings Call," July 30, 2025, <a href="https://investors.arm.com/static-files/57a99953-427a-4cfb-ade8-634d3564c008">https://investors.arm.com/static-files/57a99953-427a-4cfb-ade8-634d3564c008</a>, p. 3.

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 429 of 616 PageID #: 26922

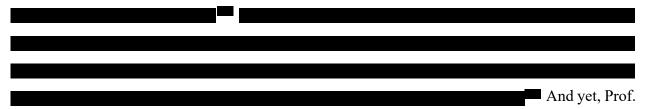
# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

to a closed business model, Arm has never stated that it intends to close off access to its ISA, and Prof. Posner provides no evidence that Arm intends to do so.

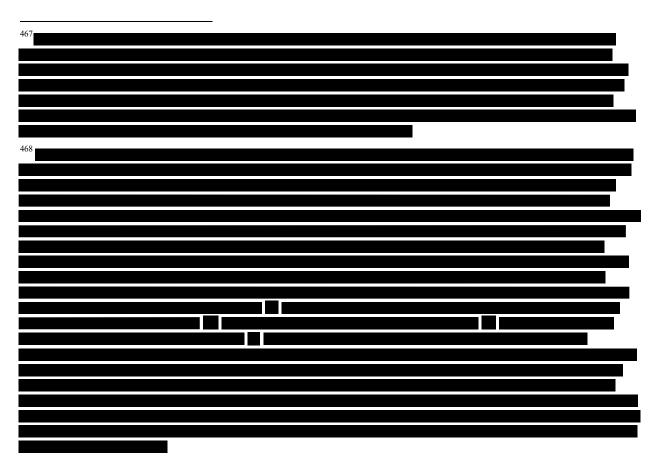
194. Fourth, Arm has recently entered data centers with its own chip—not because Arm intends to close its ecosystem————————————————————————————————————
Arm's entry to meet the unmet need of a potential large customer is procompetitive and is in no way evidence that Arm intends to close its ecosystem.
195. <i>Fifth</i> , if Arm intended to close its ecosystem by foreclosing Qualcomm and other customers, then Arm's decision to enter with its own chip in data centers first would be arineffective and irrational approach. As described earlier, Qualcomm currently has no chip in data centers, and thus <i>zero share</i> , and is not expected to begin selling data center chips until fiscal year 2028, if at all. 466
462 See Section VIII.B.2. 463 Matthew Garrahan, Tim Bradshaw, and David Keohane, "Arm to launch its own chip in move that could upend semiconductor Industry," Financial Times, February 13, 2025, <a href="https://www.ft.com/content/95367b2b-2aa7-4a06-bdd3-0463c9bad008">https://www.ft.com/content/95367b2b-2aa7-4a06-bdd3-0463c9bad008</a> . 464 See Section VIII.B.2.
def Qualcomm's fiscal year ends in September, and as such Qualcomm's entry is expected between October 2027 and September 2028. See "Q3 2025 Qualcomm Inc. Earnings Call," Qualcomm, July 30, 2025, p. 4, <a href="https://s204.q4cdn.com/645488518/files/doc_events/2025/Jul/30/Q3FY25-Earnings-Call-Transcript_7-30-25_Final.pdf">https://s204.q4cdn.com/645488518/files/doc_events/2025/Jul/30/Q3FY25-Earnings-Call-Transcript_7-30-25_Final.pdf</a> (Mr. Amon explained: "Now I would like to provide an update on our expansion into the data center. This represents a new growth opportunity for Qualcomm and is a logical extension of our diversification strategy as we continue to demonstrate leadership in CPU performance and NPU efficiency. [] While we are in the early stages of this [datacenter] expansion, we are engaged with multiple potential customers and are currently in advanced discussions with a leading hyper-scaler. If successful, we expect revenues to begin in the fiscal '28 timeframe." (emphasis added)).

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 430 of 616 PageID #: 26923

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER



Posner claims that Arm is behaving anticompetitively because "Arm seeks to drive Qualcomm away from designing custom cores, even if it means Arm loses royalties on those custom cores in the *short term*." Yet, in effect, Prof. Posner actually suggests the opposite—that Arm should sacrifice its own short term profits in data centers by not entering, simply to accommodate Qualcomm's lagging and uncertain entry. Contrary to Prof. Posner's claim, Arm's entry is not economic foreclosure; instead, it is a response to customer demand.



<sup>&</sup>lt;sup>469</sup> Posner Report, ¶ 13 (emphasis added).

196. Moreover, as Prof. Posner highlights, "Intel's x86 still dominates the data center sector a with [sic] roughly 84% share," despite recent growth in Arm-based chips. 470 In the short term, Arm's entry is more likely to divert sales from x86 than to cannibalize sales of other Arm-based chips. For this reason, entering with data center chips first would be an ineffective and irrational strategy if Arm's goal were to close its ecosystem and foreclose its customers.

197. Relatedly, Prof. Posner suggests that the success of the Arm ISA was somewhat arbitrary, due simply more to its "open, neutral model" than its technological capabilities and advantages.<sup>471</sup> Although I do not opine on the accuracy of Prof. Posner's claim, I understand from Dr. Brogioli that an important aspect of the success of the Arm ISA was its superior design and functionality, particularly with respect to lower power implementations.<sup>472</sup> I do note, moreover, that Prof. Posner acknowledges that the Arm ISA had advantages over available alternatives. For example, he states that "[o]ther companies and groups developed ISAs but their ISA found few followers because of concerns about openness or **dissatisfaction with the design choices embedded in those other ISAs**, or because they were designed for niche devices," and that "Arm's ISA was the more attractive in part because it had **properties that better fit the needs of chipmakers**." In other words, Prof. Posner seems to suggest that Arm has both a superior product and a superior business model. <sup>474</sup> It is therefore not surprising that Arm has succeeded over available alternatives, including the chips supplied by Intel, which has historically been a very well established and

<sup>&</sup>lt;sup>470</sup> Posner Report, ¶ 64.

<sup>&</sup>lt;sup>471</sup> Posner Report, ¶ 22 (stating that Arm's ISA was "more attractive" to chipmakers than other ISAs at the time, "but it is not clear that Arm's ISA was technically superior to other ISAs, in the sense of being essential to the design of higher quality chips. [...] The most important factor in the success of Arm's ISA appears to be that its open, neutral model appealed to chip designers and manufacturers [...] As has often been pointed out, it is important that people agree to drive on the left side or the right of the road; it is not important which side is chosen as long as everyone agrees on the same side. A common ISA solves a coordination problem in the industry, but it may not matter much which ISA is used." Prof. Posner does acknowledge that "Arm's ISA was the more attractive in part because it had properties that better fit the needs of chipmakers at the time than other ISAs did[.]").

<sup>&</sup>lt;sup>472</sup> Expert Report of Dr. Michael C. Brogioli, September 5, 2025, Section VIII.A.3.c; Conversation with Dr. Michael C. Brogioli, September 2, 2025.

<sup>&</sup>lt;sup>473</sup> Posner Report, ¶ 22 (emphasis added).

<sup>&</sup>lt;sup>474</sup> Richard Grisenthwaite's (Chief Architect at Arm), testimony is consistent with this view. *See* Grisenthwaite (Arm) Deposition, 17:10-14 ("ARM has been successful, hence the large number of units shipped. No small part of that has been our technology, but some of it has also been because of the business model.").

successful firm.<sup>475</sup> Prof. Posner provides no evidence that Arm's "open, neutral model" was "the most important factor in the success of Arm's ISA" other than the opinion of a single Qualcomm employee (his sources are a "[c]onversation with Gerard Williams, Qualcomm Senior VP Engineering" and testimony by the same Gerard Williams stating that he does not think Arm had any "inherent advantages" over alternative architectures.").<sup>476</sup> The continued success of Arm over many years and the fact that it continues to invest in R&D and improve its technology, recently leading to share gains from x86 in various applications historically dominated by Intel, suggests that Arm's success is not arbitrary.<sup>477</sup>

#### C. Increases in Royalty Rates Are Not Inherently Anticompetitive

198. Qualcomm criticizes the royalty rate increase that Arm implemented when it introduced Arm v9.<sup>478</sup> For example, the SAC states that "[a]fter releasing a new version of its ISA (v9) that makes only modest, incremental improvements on the prior version (v8), Arm has announced that it will collect double the royalties, and Arm has pressured existing v8 licensees to 'upgrade' their licenses to v9 by not releasing or supporting older v8 cores."<sup>479</sup> Prof. Posner makes a different royalty claim, saying that "Arm has increased royalty rates under the TLA in a way that does not appear to be based on the underlying costs of maintaining the Arm ecosystem, and even as Arm's

<sup>&</sup>lt;sup>475</sup> "Too Good to Lose: America's Stake in Intel," Center for Strategic and International Studies, November 12, 2024, <a href="https://www.csis.org/analysis/too-good-lose-americas-stake-intel">https://www.csis.org/analysis/too-good-lose-americas-stake-intel</a> (Intel is the "largest and most advanced U.S.-headquartered manufacturer [of chips]" and "has an unmatched history of breakthrough semiconductor innovations—including the first programmable microprocessor and the x86 architecture—which have together made an indelible impact on the world of computing [that] continues to shape the digital landscape of the modern world... The company has made massive commitments to invest heavily—more than \$100 billion over the next five years—in new chipmaking capability and capacity on domestic soil, aiming to develop and manufacture chips at the most advanced process nodes of 2 nanometers (nm) and below. Recognizing the importance of this, the U.S. government has announced plans to award Intel the largest share of federal support under the CHIPS Act.").

<sup>&</sup>lt;sup>476</sup> Posner Report, footnotes 23-25.

<sup>&</sup>lt;sup>477</sup> See Sections V and VIII.D.1.

<sup>&</sup>lt;sup>478</sup> "Arm Holdings plc Q3 FYE24 Results Presentation," Arm Holdings, February 7, 2024, https://investors.arm.com/static-files/c383780b-44f8-42c0-a125-4f6db0b8eb06 (reporting that "[o]ur v9 product garners roughly 2x the royalty rate of the equivalent v8 product" but "in some cases it's quite a bit more," and that "[r]oyalty revenue sequential growth is mainly coming from increasing penetration of ARM v9, where royalty rates are, on average, at least double the rates on equivalent ARM v8 products.").

 $<sup>^{479}</sup>$  SAC, ¶ 70. I do not have an opinion on whether the characterization of v9 as only modestly better than v8 is appropriate.

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 433 of 616 PageID #: 26926

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

OTS cores fall further behind custom cores in terms of quality."<sup>480</sup> The SAC similarly contends that Arm's October 2024 offer to Qualcomm for Arm's "core designs" was "extreme and clearly not commercially feasible for Qualcomm."<sup>481</sup> These claims ignore fundamental differences in Arm's and Qualcomm's licensing models and the economic realities of their positions in the value chain. Even after Arm's recent rate adjustments, its share of the overall chip "stack"—the total profit derived from chip sales—remains smaller than Qualcomm's. Moreover, price increases alone do not indicate anticompetitive conduct. In innovation-driven industries, royalty adjustments often reflect the value of new technology, or the increased value of existing technology, and the need to recover R&D investments. I discuss these arguments in detail below.

199. While I do not opine on the improvements of v9 relative to v8 of the ARM ISA, Qualcomm's internal documents show <sup>480</sup> Posner Report, ¶ 58.

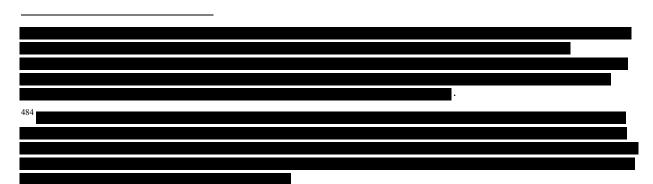
### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 434 of 616 PageID #: 26927

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

#### 1. Arm's Share of the Chip "Stack" Is Smaller than Qualcomm's

200. Arm and Qualcomm both hold key IP in the wireless space, but their licensing models differ significantly. Arm primarily licenses to chip manufacturers, such as Qualcomm and MediaTek, and also companies further downstream in the supply chain that design their own chips, such as Apple, Amazon, and Google. Arm's royalties are typically calculated as a percentage of the average selling price ("ASP") of the chip itself, rather than the much higher price of the final product (e.g., a Samsung Galaxy smartphone). In contrast, Qualcomm licenses its patent portfolio to device manufacturers, such as Apple and Samsung, and typically calculates royalties as a percentage of the ASP of the entire device—often several times higher than the chip's ASP. Qualcomm does not license its IP portfolio to rival suppliers of modem chips, such as Broadcom and MediaTek. Broadcom

201. Industry commentators have stated that Arm's IP is underpriced relative to Qualcomm. For example, SemiAnalysis, a research firm specializing in the Semiconductor and AI industries,



<sup>&</sup>lt;sup>485</sup> See, for example, Shapiro, Carl & Keith Waehrer, "Using and Misusing Microeconomics: Federal Trade Commission v. Qualcomm," Chapter 15, Antitrust Economics at a Time of Upheaval: Recent Competition Policy Cases on Two Continents (ed. John E. Kwoka, Jr., Tommaso M. Valletti & Lawrence J. White), 2023, Competition Policy International. According to the SAC, Arm was unsuccessful in its attempt "to impose a pricing model under which customers would pay royalties based on a percentage of the retail prices of the end products they made." See also, SAC, ¶ 70.

<sup>&</sup>lt;sup>486</sup> See, for example, Shapiro, Carl & Keith Waehrer, "Using and Misusing Microeconomics: Federal Trade Commission v. Qualcomm," Chapter 15, Antitrust Economics at a Time of Upheaval: Recent Competition Policy Cases on Two Continents (ed. John E. Kwoka, Jr., Tommaso M. Valletti & Lawrence J. White), 2023, Competition Policy International.

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 435 of 616 PageID #: 26928

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

observed that Qualcomm charges \$13 per device for wireless transmission IP and another \$25 for the baseband chip, while Arm's ISA—also essential to smartphone functionality—commands far lower royalties. The analysis questioned why Arm couldn't charge similar rates, given the critical nature of its technology.<sup>487</sup>

202. A comparison of Arm's and Qualcomm's aggregate royalty revenues highlights the same disparity. Both Arm and Qualcomm IP is embedded in virtually every mobile device sold globally. Yet, Qualcomm's royalty revenue significantly exceeds Arm's. Arm's total revenue in the 12-month period ending in March 2025 was \$4.0 billion, with approximately 46%, representing about \$1.85 billion, attributed to the mobile segment. 488 Over the same period, Qualcomm's QTL division generated \$5.6 billion total revenue, "principally from royalties generated through [Qualcomm's] licensees' sales of mobile handsets." 489

203. Even after the rate increases reflected in the October 2024 offer, Arm's share of the chip stack (i.e., of the overall profit from the sale of a chip) remains smaller than Qualcomm's share. Arm's highest proposed royalty rate in its October 2024 offer to Qualcomm was

 $\underline{https://web.archive.org/web/20130701165406/http://www.anandtech.com/show/7112/the-arm-diaries-part-1-how-arms-business-model-works/2.}$ 

<sup>&</sup>lt;sup>487</sup> "How would we value an essential piece of IP that every smartphone needs, with virtually no alternative? \$1, \$2, maybe \$3 per handset? We propose it could be as much as \$13 per phone. This is 24 times higher compared to current pricing! [...] Apple pays Qualcomm \$13 in royalties per device (not just for smartphones but also for wireless enabled iPads and watches) for the use of wireless transmission IP, and another \$25 for the actual baseband chip. Effectively, \$13 per device this is what Qualcomm gets away with charging for a technology that is essential to the operation of a smartphone against the company with arguably the strongest bargaining power globally. The Arm ISA is also essential to the operation of a smartphone, why couldn't they charge as much as Qualcomm? Why not more?" *See* Dylan Patel, Myron Xie, Afzal Ahmad, and Daniel Nishball, "Arm and a Leg: Arm's Quest To Extract Their True Value," SemiAnalysis, September 14, 2023, <a href="https://semianalysis.com/2023/09/14/arm-and-a-leg-arms-quest-to-extract/">https://semianalysis.com/2023/09/14/arm-and-a-leg-arms-quest-to-extract/</a>. Even as far back as 2013, analysts were commenting, "[g]iven how many ARM designs exist in the market (and the size of some of ARM's biggest customers), it almost seems like ARM should be raising its royalty rates a bit." Anand Lal Shimpi, "The ARM Diaries, Part 1: How ARM's Business Model Works," AnandTech, June 28, 2013,

<sup>&</sup>lt;sup>488</sup> Arm 2025 Form 20-F, pp. 60 ("Our royalty revenue from the mobile applications processors market constituted approximately 46% of our total royalty revenue for the fiscal year ended March 31, 2025."), 72 (reporting total revenue of \$4,007M). Arm's total revenue includes revenue earned from the sale of its OTS implementation cores and CSSs. For this reason, the \$1.85 billion in revenue for the mobile segment is conservatively high because it includes much more than just mobile licensing royalties for the Arm ISA.

<sup>&</sup>lt;sup>489</sup> Qualcomm Financial Summary downloaded from LSEG Data & Analytics. Qualcomm 2024 Form 10-K, p. F-16.

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 436 of 616 PageID #: 26929

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

for its whole cellular patent portfolio, capped at \$20/handset, or 3.25% for LTE-only devices (capped at \$13/handset)." Therefore, the lowest royalty rate that Qualcomm charges is 3.25% of the smartphone's ASP, while Arm's highest rate is	. <sup>490</sup> In contrast, the FTC v. Qualcomm trial revealed that
(capped at \$13/handset)."491 Therefore, the lowest royalty rate that Qualcomm charges is 3.25% of the smartphone's ASP, while Arm's highest rate is	Qualcomm "currently charges smartphone makers a 5% [of the ASP of the smartphone] royalty
and the smartphone's ASP, while Arm's highest rate is With some simple math, Arm's	for its whole cellular patent portfolio, capped at \$20/handset, or 3.25% for LTE-only devices
204. I do not opine on whether the royalty rates that Arm and Qualcomm charge for their IP are "excessive" or appropriate. However, the large disparity in royalty payments per device for two technologies that are both essential to the development of a smartphone suggests that Arm's IP is technologies that are both essential to the development of a smartphone suggests that Arm's IP is statement, "November 19, 2017, https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/qualcomm-5g-nr-royalty-terms-statement.pdf" ("Qualcomm Incorporated today disclosed a framework for industry participants to access Qualcomm's patented inventions used in the upcoming 3rd Generation Partnership Project (3GPP) 5G New Radio (NR) standards. [] Under Qualcomm's licensing program for cellular essential patents, the following royalty terms will apply on a worldwide basis to a license for Original Equipment Manufacturer (OEM) branded mobile handsets that implement the 5G NR standard, up to and including release 15 of the 3GPP specifications: (i) An effective running royalty rate of 2.275% of the selling price of branded single-mode 5G handsets; and (ii) An effective running royalty rate of 3.25% of the selling price of branded multi-mode (3G/4G/5G) handsets. [] In addition, Qualcomm will continue to offer licenses for OEM branded mobile handsets that include both Qualcomm's cellular standard essential patents as well as those patents not essential to the standard, a total portfolio of over 130,000 patents and pending applications worldwide at royalty rates of 4% of the	(capped at \$13/handset)."491 Therefore, the lowest royalty rate that Qualcomm charges is 3.25%
204. I do not opine on whether the royalty rates that Arm and Qualcomm charge for their IP are "excessive" or appropriate. However, the large disparity in royalty payments per device for two technologies that are both essential to the development of a smartphone suggests that Arm's IP is technologies that are both essential to the development of a smartphone suggests that Arm's IP is statement, "Trial Sheds Light on Q'comm Patent Holdings, Royalty Rates," EETimes, January 21, 2019, https://www.eetimes.com/trial-sheds-light-on-qcomm-patent-holdings-royalty-rates. See also "Qualcomm 5G NR Royalty Terms Statement," November 19, 2017, https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/qualcomm-5g-nr-royalty-terms-statement.pdf ("Qualcomm Incorporated today disclosed a framework for industry participants to access Qualcomm's patented inventions used in the upcoming 3rd Generation Partnership Project (3GPP) 5G New Radio (NR) standards. [] Under Qualcomm's licensing program for cellular essential patents, the following royalty terms will apply on a worldwide basis to a license for Original Equipment Manufacturer (OEM) branded mobile handsets that implement the 5G NR standard, up to and including release 15 of the 3GPP specifications: (i) An effective running royalty rate of 2.275% of the selling price of branded single-mode 5G handsets; and (ii) An effective running royalty rate of 3.25% of the selling price of branded multi-mode (3G/4G/5G) handsets. [] In addition, Qualcomm will continue to offer licenses for OEM branded mobile handsets that include both Qualcomm's cellular standard essential patents as well as those patents not essential to the standard, a total portfolio of over 130,000 patents and pending applications worldwide at royalty rates of 4% of the	of the smartphone's ASP, while Arm's highest rate is
"excessive" or appropriate. However, the large disparity in royalty payments per device for two technologies that are both essential to the development of a smartphone suggests that Arm's IP is 490 "Trial Sheds Light on Q'comm Patent Holdings, Royalty Rates," EETimes, January 21, 2019, https://www.eetimes.com/trial-sheds-light-on-qcomm-patent-holdings-royalty-rates. See also "Qualcomm 5G NR Royalty Terms Statement," November 19, 2017, https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/qualcomm-5g-nr-royalty-terms-statement.pdf ("Qualcomm Incorporated today disclosed a framework for industry participants to access Qualcomm's patented inventions used in the upcoming 3rd Generation Partnership Project (3GPP) 5G New Radio (NR) standards. [] Under Qualcomm's licensing program for cellular essential patents, the following royalty terms will apply on a worldwide basis to a license for Original Equipment Manufacturer (OEM) branded mobile handsets that implement the 5G NR standard, up to and including release 15 of the 3GPP specifications: (i) An effective running royalty rate of 2.275% of the selling price of branded single-mode 5G handsets; and (ii) An effective running royalty rate of 3.25% of the selling price of branded multi-mode (36/46/5G) handsets. [] In addition, Qualcomm will continue to offer licenses for OEM branded mobile handsets that include both Qualcomm's cellular standard essential patents as well as those patents not essential to the standard, a total portfolio of over 130,000 patents and pending applications worldwide at royalty rates of 4% of the	math, Arm's
"excessive" or appropriate. However, the large disparity in royalty payments per device for two technologies that are both essential to the development of a smartphone suggests that Arm's IP is with a suggest statement of a smartphone suggest statement are both essential to the development of a smartphone suggest statement arm's IP is suggest statement of a smartphone suggest statement arm's IP is suggest statement of a smartphone suggest statement suggests statement suggest	
technologies that are both essential to the development of a smartphone suggests that Arm's IP is  490  491 "Trial Sheds Light on Q'comm Patent Holdings, Royalty Rates," EETimes, January 21, 2019, https://www.eetimes.com/trial-sheds-light-on-qcomm-patent-holdings-royalty-rates. See also "Qualcomm 5G NR Royalty Terms Statement," November 19, 2017, https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/qualcomm-5g-nr-royalty-terms-statement.pdf ("Qualcomm Incorporated today disclosed a framework for industry participants to access Qualcomm's patented inventions used in the upcoming 3rd Generation Partnership Project (3GPP) 5G New Radio (NR) standards. [] Under Qualcomm's licensing program for cellular essential patents, the following royalty terms will apply on a worldwide basis to a license for Original Equipment Manufacturer (OEM) branded mobile handsets that implement the 5G NR standard, up to and including release 15 of the 3GPP specifications: (i) An effective running royalty rate of 2.275% of the selling price of branded single-mode 5G handsets; and (ii) An effective running royalty rate of 3.25% of the selling price of branded multi-mode (3G/4G/5G) handsets. [] In addition, Qualcomm will continue to offer licenses for OEM branded multi-mode (3G/4G/5G) handsets. [] In addition, Qualcomm will continue to offer licenses for OEM branded mobile handsets that include both Qualcomm's cellular standard essential patents as well as those patents not essential to the standard, a total portfolio of over 130,000 patents and pending applications worldwide at royalty rates of 4% of the	204. I do not opine on whether the royalty rates that Arm and Qualcomm charge for their IP are
491 "Trial Sheds Light on Q'comm Patent Holdings, Royalty Rates," EETimes, January 21, 2019, https://www.eetimes.com/trial-sheds-light-on-qcomm-patent-holdings-royalty-rates. See also "Qualcomm 5G NR Royalty Terms Statement," November 19, 2017, https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/qualcomm-5g-nr-royalty-terms-statement.pdf ("Qualcomm Incorporated today disclosed a framework for industry participants to access Qualcomm's patented inventions used in the upcoming 3rd Generation Partnership Project (3GPP) 5G New Radio (NR) standards. [] Under Qualcomm's licensing program for cellular essential patents, the following royalty terms will apply on a worldwide basis to a license for Original Equipment Manufacturer (OEM) branded mobile handsets that implement the 5G NR standard, up to and including release 15 of the 3GPP specifications: (i) An effective running royalty rate of 2.275% of the selling price of branded single-mode 5G handsets; and (ii) An effective running royalty rate of 3.25% of the selling price of branded multi-mode (3G/4G/5G) handsets. [] In addition, Qualcomm will continue to offer licenses for OEM branded mobile handsets that include both Qualcomm's cellular standard essential patents as well as those patents not essential to the standard, a total portfolio of over 130,000 patents and pending applications worldwide at royalty rates of 4% of the	"excessive" or appropriate. However, the large disparity in royalty payments per device for two
491 "Trial Sheds Light on Q'comm Patent Holdings, Royalty Rates," EETimes, January 21, 2019, https://www.eetimes.com/trial-sheds-light-on-qcomm-patent-holdings-royalty-rates. See also "Qualcomm 5G NR Royalty Terms Statement," November 19, 2017, https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/qualcomm-5g-nr-royalty-terms-statement.pdf ("Qualcomm Incorporated today disclosed a framework for industry participants to access Qualcomm's patented inventions used in the upcoming 3rd Generation Partnership Project (3GPP) 5G New Radio (NR) standards. [] Under Qualcomm's licensing program for cellular essential patents, the following royalty terms will apply on a worldwide basis to a license for Original Equipment Manufacturer (OEM) branded mobile handsets that implement the 5G NR standard, up to and including release 15 of the 3GPP specifications: (i) An effective running royalty rate of 2.275% of the selling price of branded single-mode 5G handsets; and (ii) An effective running royalty rate of 3.25% of the selling price of branded multi-mode (3G/4G/5G) handsets. [] In addition, Qualcomm will continue to offer licenses for OEM branded mobile handsets that include both Qualcomm's cellular standard essential patents as well as those patents not essential to the standard, a total portfolio of over 130,000 patents and pending applications worldwide at royalty rates of 4% of the	technologies that are both essential to the development of a smartphone suggests that Arm's IP is
491 "Trial Sheds Light on Q'comm Patent Holdings, Royalty Rates," EETimes, January 21, 2019, https://www.eetimes.com/trial-sheds-light-on-qcomm-patent-holdings-royalty-rates. See also "Qualcomm 5G NR Royalty Terms Statement," November 19, 2017, https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/qualcomm-5g-nr-royalty-terms-statement.pdf ("Qualcomm Incorporated today disclosed a framework for industry participants to access Qualcomm's patented inventions used in the upcoming 3rd Generation Partnership Project (3GPP) 5G New Radio (NR) standards. [] Under Qualcomm's licensing program for cellular essential patents, the following royalty terms will apply on a worldwide basis to a license for Original Equipment Manufacturer (OEM) branded mobile handsets that implement the 5G NR standard, up to and including release 15 of the 3GPP specifications: (i) An effective running royalty rate of 2.275% of the selling price of branded single-mode 5G handsets; and (ii) An effective running royalty rate of 3.25% of the selling price of branded multi-mode (3G/4G/5G) handsets. [] In addition, Qualcomm will continue to offer licenses for OEM branded mobile handsets that include both Qualcomm's cellular standard essential patents as well as those patents not essential to the standard, a total portfolio of over 130,000 patents and pending applications worldwide at royalty rates of 4% of the	
https://www.eetimes.com/trial-sheds-light-on-qcomm-patent-holdings-royalty-rates. See also "Qualcomm 5G NR Royalty Terms Statement," November 19, 2017, https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/qualcomm-5g-nr-royalty-terms-statement.pdf ("Qualcomm Incorporated today disclosed a framework for industry participants to access Qualcomm's patented inventions used in the upcoming 3rd Generation Partnership Project (3GPP) 5G New Radio (NR) standards. [] Under Qualcomm's licensing program for cellular essential patents, the following royalty terms will apply on a worldwide basis to a license for Original Equipment Manufacturer (OEM) branded mobile handsets that implement the 5G NR standard, up to and including release 15 of the 3GPP specifications: (i) An effective running royalty rate of 2.275% of the selling price of branded single-mode 5G handsets; and (ii) An effective running royalty rate of 3.25% of the selling price of branded multi-mode (3G/4G/5G) handsets. [] In addition, Qualcomm will continue to offer licenses for OEM branded mobile handsets that include both Qualcomm's cellular standard essential patents as well as those patents not essential to the standard, a total portfolio of over 130,000 patents and pending applications worldwide at royalty rates of 4% of the	490
https://www.eetimes.com/trial-sheds-light-on-qcomm-patent-holdings-royalty-rates. See also "Qualcomm 5G NR Royalty Terms Statement," November 19, 2017, https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/qualcomm-5g-nr-royalty-terms-statement.pdf ("Qualcomm Incorporated today disclosed a framework for industry participants to access Qualcomm's patented inventions used in the upcoming 3rd Generation Partnership Project (3GPP) 5G New Radio (NR) standards. [] Under Qualcomm's licensing program for cellular essential patents, the following royalty terms will apply on a worldwide basis to a license for Original Equipment Manufacturer (OEM) branded mobile handsets that implement the 5G NR standard, up to and including release 15 of the 3GPP specifications: (i) An effective running royalty rate of 2.275% of the selling price of branded single-mode 5G handsets; and (ii) An effective running royalty rate of 3.25% of the selling price of branded multi-mode (3G/4G/5G) handsets. [] In addition, Qualcomm will continue to offer licenses for OEM branded mobile handsets that include both Qualcomm's cellular standard essential patents as well as those patents not essential to the standard, a total portfolio of over 130,000 patents and pending applications worldwide at royalty rates of 4% of the	
	https://www.eetimes.com/trial-sheds-light-on-qcomm-patent-holdings-royalty-rates. See also "Qualcomm 5G NR Royalty Terms Statement," November 19, 2017, https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/qualcomm-5g-nr-royalty-terms-statement.pdf ("Qualcomm Incorporated today disclosed a framework for industry participants to access Qualcomm's patented inventions used in the upcoming 3rd Generation Partnership Project (3GPP) 5G New Radio (NR) standards. [] Under Qualcomm's licensing program for cellular essential patents, the following royalty terms will apply on a worldwide basis to a license for Original Equipment Manufacturer (OEM) branded mobile handsets that implement the 5G NR standard, up to and including release 15 of the 3GPP specifications: (i) An effective running royalty rate of 2.275% of the selling price of branded single-mode 5G handsets; and (ii) An effective running royalty rate of 3.25% of the selling price of branded multi-mode (3G/4G/5G) handsets. [] In addition, Qualcomm will continue to offer licenses for OEM branded mobile handsets that include both Qualcomm's cellular standard essential patents as well as those patents not essential to the standard, a total portfolio of over 130,000 patents and pending applications worldwide at royalty rates of 4% of the

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 437 of 616 PageID #: 26930

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

priced cheaply compared to Qualcomm's IP, contrary to claims that Arm's royalty demands are "unreasonable" or "exorbitant," as Qualcomm claims. 494

#### 2. Price Increases Are Not Inherently Anticompetitive

205. In high-tech industries, competition is often driven by R&D aimed at improving the quality and performance of products offered in the marketplace. The incentive to invest in costly and risky R&D stems from the expectation of earning profits from sales. <sup>495</sup> When a firm successfully innovates, raising prices to reflect the value of its improved technology is not anticompetitive but a standard commercial response to successful innovation. <sup>496</sup> In the same way, a firm may raise its price in response to an increase in demand, and it is certainly true that with the advent and recent growth of AI, the demand for Arm-based chips has never been higher. <sup>497</sup> Such a price increase is common in business and occurs even in the absence of any incentive to foreclose.

206. Furthermore, it is important to interpret any price increases in light of the "starting point," i.e., the price before the increase.

<sup>&</sup>lt;sup>494</sup> "Plaintiffs' Responses and Objections to Defendant's Third Set of Interrogatories (Nos. 14-24)," Qualcomm, July 11, 2025, p. 10. I use "essential" in its colloquial meaning of necessary (in the short run).

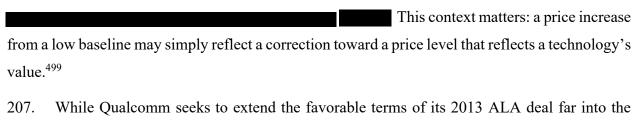
<sup>&</sup>lt;sup>495</sup> "Patents are rewards for those who have contributed to economic growth through their inventions. Any resulting market power enjoyed by a patent holder is typically considered a social cost that is necessary to stimulate innovation and provide a return on R&D expenditures." Lemley, Mark A. and Carl Shapiro, "Probabilistic Patents," Journal of Economic Perspectives, 2005, Vol. 19, No. 2, pp.75–98.

<sup>&</sup>lt;sup>496</sup> In its Reply Brief to the U.S. Court of Appeals, Qualcomm stated that "Qualcomm has the right to earn a return on its investment in developing patented technologies by licensing at the OEM level and not making exhaustive sales of modem chips. And Qualcomm has a valid interest in protecting its investments in innovation and R&D and its OEM licensing program." *Federal Trade Commission v. Qualcomm Incorporated*, "Reply brief for appellant Qualcomm Incorporated (Redacted)," December 16, 2019, No. 19-16122, Dkt. Entry 228, United States Court of Appeals for the Ninth Circuit, pp. 48-49.

<sup>&</sup>lt;sup>497</sup> Rene Haas, "Arm Holding Plc Q4 2025 Earnings Call," May 7, 2025, <a href="https://investors.arm.com/static-files/181d5019-29bd-4ba5-af29-45888e25c637">https://investors.arm.com/static-files/181d5019-29bd-4ba5-af29-45888e25c637</a>, p. 14 ("Arm is everywhere. Increasingly, demand for the Arm architecture is requiring us to deliver more. We're seeing that with our compute subsystems and with the advent of AI workloads running in the data center, running on a PC, running on a smartphone, running on your automobile, or even running in the earbuds, the demand for Arm technology has never been greater. So, we are incredibly excited about the future. AI is changing everything and you can't run AI without Arm."); Rene Haas, "Arm Holdings Q2 FYE25 Investor Presentation," Arm Holdings, November 6, 2024, <a href="https://investors.arm.com/static-files/623fece0-c947-4d93-94eb-e08e8dfad61b">https://investors.arm.com/static-files/623fece0-c947-4d93-94eb-e08e8dfad61b</a>, pp. 2-3 ("I am very proud to tell you that in that year, we have exceeded all of our expectations on execution of our growth strategies. The demand for AI everywhere is increasing the demand for Arm's compute platform. [...] It goes without saying that AI is everywhere. Arm is the only compute platform that can run AI from the edge to the cloud. AI is driving demand for our performance and power-efficient compute platform everywhere.").

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 438 of 616 PageID #: 26931

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER



207. While Qualcomm seeks to extend the favorable terms of its 2013 ALA deal far into the future, it is not anticompetitive for Arm to adjust its pricing to reflect the value of its R&D investments. Forcing Arm to maintain outdated pricing risks significantly diminishing its incentives to innovate and develop higher quality technologies. Qualcomm itself has reportedly increased the price of its chips following the launch of a new higher-performance version of its Snapdragon chip. 501 As discussed above, industry analysts have noted that Arm's IP has



<sup>&</sup>lt;sup>499</sup> See also Conversation with Paul Williamson (Arm's Senior Vice President and General Manager of the IoT Line of Business), September 2, 2025, explaining that the royalty rate structure contained in Qualcomm's May 2013 ALA did not anticipate the extensive customer demand for increased chip capabilities and the expansion of application use cases observed since then. As an illustration, at the time of the 2013 agreement Qualcomm was primarily making smartphone chips and such chips had a small number of cores, typically just one or two. The \$1.88 royalty cap per-chip in Qualcomm's ALA (see footnote 128128) was set based on the expectation that the number of cores would remain limited and did not anticipate the large increase in the number of cores per smartphone chip that eventually occurred. Furthermore, the Qualcomm agreement with Arm does not have a field of use restriction, and at the time of the agreement Arm was not even present in that segment. And yet today, data center chips often have over 100 cores, a scenario that the \$1.88 royalty cap per chip was clearly never intended to cover.

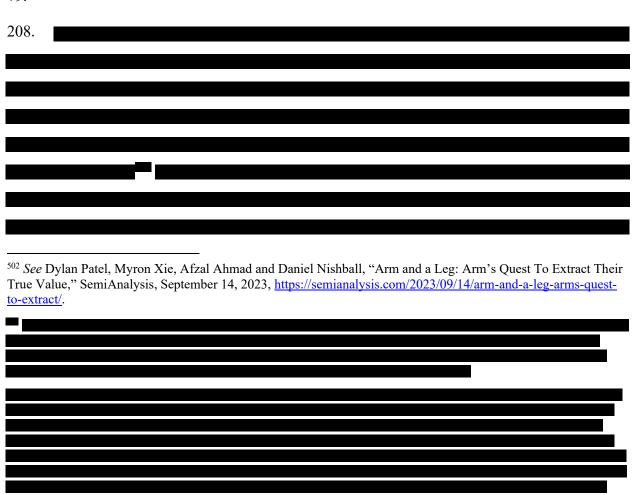
<sup>&</sup>lt;sup>500</sup> On the importance of appropriating returns to investment, *see* Shapiro, Carl, "Premiums for high quality products as returns to reputations," The Quarterly Journal of Economics, 1983, Vol. 98, No. 4., pp. 659-679.

<sup>&</sup>lt;sup>501</sup> Rajesh Pandey, "Qualcomm wants Android device makers to pay even more for its next flagship chip," Yahoo! Tech, December 2, 2024, <a href="https://tech.yahoo.com/phones/articles/qualcomm-wants-android-device-makers-092330024.html">https://tech.yahoo.com/phones/articles/qualcomm-wants-android-device-makers-092330024.html</a> ("Qualcomm's Snapdragon 8 Elite offers a notable improvement in performance and efficiency over previous Snapdragon chips, promising next-gen Android phones with even more impressive features and longer battery life. However, this comes at a cost, with reports suggesting manufacturers are paying Qualcomm as much as \$190 for the chip — 20% more than the previous models. With such a steep price rise this year, you might expect Qualcomm not to hike the price of its next flagship SoC. Early reports suggest that might not be the case, though."). I do not have data to check if the reported price increase actually occurred; my point is that the price increase would be perfectly understandable and not anticompetitive.

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 439 of 616 PageID #: 26932

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

historically been underpriced. It is therefore not surprising that Arm increased the royalty rate of  $v9.^{502}$ 



### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 440 of 616 PageID #: 26933

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

209. While I do not have detailed data to compare terms offered to Q	Qualcomm to other
comparable deals,	
<sup>506</sup> Youssef (Arm) Deposition, 66:7-71:3.	

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

210. In summary, Arm's royalty rate increases are consistent with standard commercial practices in innovation-driven industries and do not reflect anticompetitive conduct. Arm's pricing remains modest relative to Qualcomm's, its share of the chip stack is smaller, and its licensing model continues to support broad access to its ISA. There is no evidence that Arm's royalty adjustments reflect a broad scheme to foreclose rivals rather than simply competitive dynamics in an industry where R&D investments are costly and necessary to preserve a firm's ability to compete.

#### D. "Dominant" Shares Do Not Imply a Lack of Competitive Pressure

211. Prof. Posner states that Arm "dominates the Arm ISA ecosystem through its control of the Arm ISA technology," with a "99% [share] of all smartphones." However, Prof. Posner fails to consider that Arm's large share in smartphones (and much lower share in other applications) does not imply a lack of competitive pressure.

#### 1. Arm Continues to Invest a Significant Portion of Its Revenue

- 212. Prof. Posner claims that "by reducing competition in designing and selling chips, Arm (and any remaining competitors) will be able to raise prices and *skimp on innovation* without fear of being undercut or outperformed by Qualcomm or other licensees that make SoCs using custom cores that deliver higher performance."<sup>509</sup>
- 213. I addressed the claim regarding royalty rates in Section VIII.C.2 and do not opine on whether the quality of Arm's OTS cores has decreased, relative to other custom cores. In this Section, I focus on Prof. Posner's assertion that Arm is skimping on innovation. Prof. Posner fails



<sup>&</sup>lt;sup>508</sup> Posner Report, ¶¶ 55-56.

<sup>&</sup>lt;sup>509</sup> Posner Report, ¶ 16 (emphasis added).

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 442 of 616 PageID #:

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

to explain why, as a "monopolist" protected by high "barriers to entry,"<sup>510</sup> Arm would continue to invest a significant portion of its revenue in R&D.<sup>511</sup> Prof. Posner also does not consider that Arm's sustained investment is more consistent with a firm responding to competitive pressure—particularly from x86 and RISC-V—than with one exercising unchecked market power.<sup>512</sup>

- 214. Arm's high share of smartphone chips reflects Arm's innovation and continued investment in R&D. There is no evidence that Arm is underinvesting or that Arm's focus on innovation and R&D has been declining over time.<sup>513</sup>
  - Arm Invests a Much Higher Share of Revenue than Qualcomm: A common measure of the intensity of R&D investment is a firm's R&D expenditure as a share of revenue. As I show in **Exhibit 5** below, since 2019, Arm has reinvested a much higher share of its revenue in R&D than Qualcomm every year. 514 Arm's average R&D share over this period has been

<sup>&</sup>lt;sup>510</sup> Posner Report, ¶¶ 18, 58.

<sup>511 &</sup>quot;Monopolies may also fail to innovate, as they are loath to cannibalize their own products. They may even fail to adopt minor innovations. [...] The virtues of competition in action." Tirole, Jean, "Competition and the Industrial Challenge for the Digital Age," Annual Review of Economics, 2020, Vol. 156. See also Shapiro, Carl, "Competition and Innovation Did Arrow Hit the Bull's Eye?" in The Rate and Direction of Inventive Activity Revisited (ed. Josh Lerner and Scott Stern), 2012, University of Chicago Press ("The unifying principle, richly supported by the empirical literature, is that innovation, broadly defined, is spurred if the market is contestable; that is, if multiple firms are vying to win profitable future sales.").

<sup>512</sup> The SAC provides further evidence of Arm's inability to exercise its purported monopoly power: Arm was unsuccessful in its attempt to "to renegotiate [Apple's] royalty rates notwithstanding the parties' existing contract." SAC, ¶ 70. See also Wayne Ma & Cory Weinberg, "How a Lopsided Apple Deal Got Under Arm's Skin," The Information, November 29, 2023, <a href="https://www.theinformation.com/articles/how-a-lopsided-apple-deal-got-under-arms-skin">https://www.theinformation.com/articles/how-a-lopsided-apple-deal-got-under-arms-skin</a> ("At one point, Son called Apple CEO Tim Cook to tell him Arm would be raising prices for all its major smartphone and chip customers. Cook's team reassured him that Arm couldn't raise fees, because the companies' contract at the time lasted through 2028. Son backed off. Since then Apple and Arm have been through several rounds of negotiations that have kept the financial terms of Apple's deal largely in place, people familiar with the matter said.").

<sup>&</sup>lt;sup>513</sup> ARMQC\_02731630 (an Arm internal email dated June 1, 2023, with subject "Android and RISC-V: Internal Talking Points." While acknowledging the limitations of RISC-V, it states that "we will likely see productized implementations within 5 years. The first products will not be mobile handsets and it remains to be seen if the industry has any appetite at all, or the funds, to undertake the monumental task of moving this category of devices and its millions of applications to R-V. [...] there is still a lot of work to do to get all of the Architecture, Security and System IP standardized and in place." It concluded that "we cannot be complacent; Arm needs to continue to outpace the competition with both architecture features for real-world compute loads and micro-architecture innovations along with addressing security challenges of the future.").

<sup>&</sup>lt;sup>514</sup> I acknowledge that cross company comparisons may suffer from issues such as different accounting conventions. I also acknowledge that the increase in Arm's R&D expenditure does not fully reflect an increase in R&D "effort," as Arm Holdings plc, Form 20-F, for the fiscal year ended March 31, 2024, <a href="https://investors.arm.com/static-">https://investors.arm.com/static-</a>

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 443 of 616 PageID #: 26936

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

47%, reaching 52% in the year ending March 2025.<sup>515,516</sup> By contrast, Qualcomm's R&D as a percentage of total revenue was always below 30% over the same period. Arm also invested a higher share than Intel whose R&D as a percentage of total revenue over the same period was approximately 23%.<sup>517</sup>

files/dcdd6629-24bb-40ef-ba55-8aca1362205a, explains at p. 71: "Research and development expenses increased by \$846 million, or 75%, during the fiscal year ended March 31, 2024 as compared to the fiscal year ended March 31, 2023, primarily due to the impact of the incremental share-based compensation costs and associated employer taxes arising in connection with the IPO and new awards [...]. Other factors contributing to the increase included salaries and related expenses due to headcount increases from hiring as well as increases in third-party engineering expenses, IT expenses including cloud services, and allocated facility overhead expenses, partially offset by increases in research and development tax incentives and gains from cash flow hedge activity." While not perfect, the comparison of Arm and Qualcomm R&D is informative in suggesting that Arm continues to engage in intensive R&D efforts.

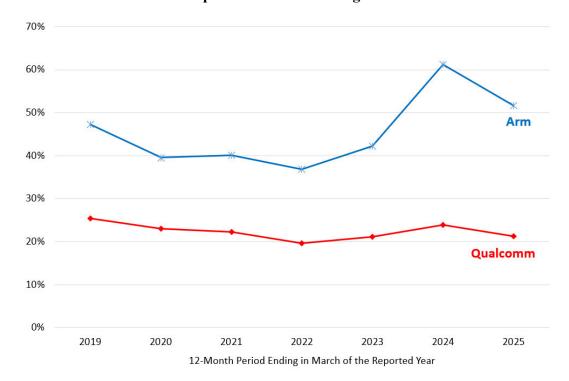
<sup>&</sup>lt;sup>515</sup> ARM\_00000510 at '535; ARM\_00000382 at '416; ARM\_01259705 at '927; Arm 2025 Form 20-F, p. 72 and Arm 2023 Form F-1, p. 99. In its most recent quarter ending June 30, 2025, Arm reinvested 62% of its revenue into R&D. See "FYE26 Q1 (30-Jun-25) Historical Quarters Datasheet.xlsx," Arm Holdings, July 30, 2025, <a href="https://investors.arm.com/financials/quarterly-annual-results">https://investors.arm.com/financials/quarterly-annual-results</a>. "R&D expenses consist primarily of employee-related expenses, including salaries, bonuses, share-based compensation, and benefits associated with employees in research and development functions, along with project materials costs, third-party fees paid to consultants, depreciation and amortization, allocated overhead, information technology and other development expenses. We receive government grants to compensate for certain research activities and we recognize the benefit as a reduction of the related expenses included in R&D expenses." See Arm 2023 Form F-1, p. 98.

<sup>&</sup>lt;sup>516</sup> See also ARM\_01282304 at '314, a 2018 Arm presentation reporting R&D as a percentage of revenue going back to 2005 and showing an increase in 2016-2017 compared to prior years.

<sup>&</sup>lt;sup>517</sup> Intel Corporation, 2021 Form 10-K, for the fiscal year ended December 25, 2021, <a href="https://www.intc.com/filings-reports/all-sec-filings/content/0000050863-22-000007/0000050863-22-000007.pdf">https://www.intc.com/filings-reports/all-sec-filings/content/0000050863-22-000007/0000050863-22-000007.pdf</a>, p. 37, and Intel Corporation, 2024 Form 10-K, for the fiscal year ended December 28, 2024, <a href="https://www.intc.com/filings-reports/all-sec-filings/content/0000050863-25-000009/000050863-25-000009.pdf">https://www.intc.com/filings-reports/all-sec-filings/content/0000050863-25-000009/000050863-25-000009.pdf</a>, p. 23. The highest ratio, 31.2% was in 2024 and the lowest, 17.4%, was in 2020.

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Exhibit 5: R&D Expenditure as Percentage of Total Revenue<sup>518</sup>



Arm Has Increased Its R&D Investment Faster than Qualcomm: From 2019 to 2025,
 Arm's R&D expenditure increased by about 150% while Qualcomm's R&D increased by

<sup>&</sup>lt;sup>518</sup> Arm: ARM\_00000510 at '535 and Exchange Rates, "British Pound to US Dollar History: 2019," <a href="https://www.exchangerates.org.uk/GBP-USD-spot-exchange-rates-history-2019.html">https://www.exchangerates.org.uk/GBP-USD-spot-exchange-rates-history-2019.html</a> for 2019, ARM\_00000382 at '416 for 2020; Arm 2023 Form F-1, Arm Holdings plc, August 21, 2023, p. 99 for 2021-2022; and Arm 2025 Form 20-F, p. 72 for 2023-2025. Qualcomm: MacroTrends, "QUALCOMM Research and Development Expenses 2010-2025," <a href="https://www.macrotrends.net/stocks/charts/QCOM/qualcomm/research-development-expenses">https://www.macrotrends.net/stocks/charts/QCOM/qualcomm/research-development-expenses</a>, MacroTrends, "QUALCOMM Revenue 2010-2025,"

https://www.macrotrends.net/stocks/charts/QCOM/qualcomm/revenue. For Arm, total revenue is the sum of "Revenue from external customers" and "Revenue from related parties;" for Qualcomm, total revenue is the sum of revenue from "Equipment and services" and from "Licensing." For each year, I use the revenue and R&D expenditure figures from the latest available source.

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 445 of 616 PageID #:

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

only around 65%. <sup>519</sup> Some of the recent increases in Arm's investment is due to investments Arm is making to develop its own data center chips. <sup>520</sup>

- 215. Arm executives testified that Arm sees competitive threats to "[a]ll parts of our business," <sup>521</sup> e.g., from RISC-V, which pushes Arm to innovate and meet its customers' requirements to maintain its technological leadership. <sup>522</sup>
- 216. Prof. Posner overlooks the fact that Arm's sustained R&D investment is both a response to competitive dynamics and a key driver of its success. Far from skimping on innovation, Arm's behavior reflects a firm actively investing to maintain and grow its position in a rapidly evolving industry.<sup>523</sup>

<sup>&</sup>lt;sup>519</sup> Qualcomm Incorporated, Form 10-K, for fiscal years 2019 – 2024, <a href="https://investor.qualcomm.com/financial-info-sec-filings/sec-filings/default.aspx">https://investor.qualcomm.com/financial-info-sec-filings/sec-filings/default.aspx</a>, and Qualcomm Incorporated, Form 10-Q, for quarterly periods 2019 - 2024, <a href="https://investor.qualcomm.com/financial-info-sec-filings/sec-filings/default.aspx">https://investor.qualcomm.com/financial-info-sec-filings/sec-filings/default.aspx</a>, ARM\_00000510 at '535, ARM\_00000382 at '416. Qualcomm's fiscal year ends in September; for purposes of comparison, I aggregate quarterly data to match Arm's fiscal year, which ends in March. From 2019 to 2025, Arm's R&D expenditure increased from \$840 million to \$2.1 billion, while Qualcomm's expenditure increased from \$5.4 billion to \$9.0 Billion.

<sup>&</sup>lt;sup>520</sup> Rene Haas, "Arm Holdings Plc Q1 2026 Earnings Call," July 30, 2025, p. 4, <a href="https://investors.arm.com/static-files/57a99953-427a-4cfb-ade8-634d3564c008">https://investors.arm.com/static-files/57a99953-427a-4cfb-ade8-634d3564c008</a> (In the most recent Arm earnings call, Mr. Haas described Arm's accelerate R&D investments: "We are continuing to explore the possibility of moving beyond our current platform into additional compute to subsystems, chiplets and potentially full end solutions. To ensure these opportunities are executed successfully, we have accelerated the investment into our R&D. These investments include expanding engineering delivery across multiple – levels, adding to the already significant product investments we have made to-date.").

<sup>&</sup>lt;sup>521</sup> Williamson (Arm) Deposition, 102:2-10.

<sup>&</sup>lt;sup>522</sup> Even when Arm innovates to meet its clients' needs, they may still choose to use a competing ISA. *See* ARMQC\_02740386 at '387 ("We are on track to intercept this requirement. But they still want to bring in RISC-V").

<sup>523</sup> An internal Arm presentation from June 2023 outlines the company's strategic emphasis on advancing CPU technology, aligning with broader industry trends toward enhanced performance. The presentation highlights Arm's increased cadence of CPU product releases, an expansion in the number of CPUs offered, and sustained growth in both architectural complexity and engineering headcount. *See* ARM\_01314793 at '797 (discussing the focus on better technology: "CPU Performance State of the Industry," [...] everyone is working through the same playbook: Wider, deeper, better predictors, better prefetchers, more MHz, more datapaths, lower latency to L1/L2, larger caches,"), at '824 (characterizing its goal for the CPU Roadmap as an "[e]xplosion" with increase in the number of CPUs); at '826 (discussing that Arm's "average number of product releases [to partners] increased by ~1.8x"; at '827 (discusses growth in architecture complexity from 2000 to 2023, "~ 13% CAGR in Arch complexity from ~2015-23"), at '828 (discussing sustained growth in its CPU team over the years, "CPU has grown ~3.3x since '15 (~16% CAGR)."). *See also* ARM 01293447 at '448.

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

- 2. Current High Shares Do Not Guarantee Future High Shares
- 217. Prof. Posner does not consider that current high shares do not guarantee future high shares. There are many examples of once "dominant" firms that lost significant shares to rivals.
  - *PC Segment:* In the PC segment, Intel's x86 had a share of nearly 100% in 2019.<sup>524</sup> However, the x86 share has recently come under significant competitive attack. In June 2020, Apple announced its plan to fully transition all Apple computer products from x86 to its own Arm-based chips, and by June 2023, Apple's transition was complete.<sup>525</sup> Then, as explained above, Qualcomm followed with Arm-based chips for Windows PCs in 2023, quickly gaining traction and further reducing the share of x86. These chips currently represent 9% of new Windows PC sales priced at \$600 and above in the U.S. and the top five European countries.<sup>526</sup> Counterpoint Research estimated that Arm-based chips have reached 12.8% share in 2022, not accounting for Qualcomm's recent growth.<sup>527</sup> Looking

<sup>&</sup>lt;sup>524</sup> Based on Counterpoint Research estimates, Intel's share was 84% and AMD share was 15.1%, with Arm at less than 1%. *See* Anton Shilov, "Arm-Based CPUs Could Double Notebook PC Market Share by 2027: Report," Tom's Hardware, April 11, 2023, <a href="https://www.tomshardware.com/news/arm-based-cpus-set-to-double-notebook-pc-market-share-by-2027">https://www.tomshardware.com/news/arm-based-cpus-set-to-double-notebook-pc-market-share-by-2027</a>.

<sup>525</sup> See "Apple announces transition to Apple silicon," Apple Newsroom, June 22, 2020, https://www.apple.com/newsroom/2020/06/apple-announces-mac-transition-to-apple-silicon/ (Apple announced the transition away from Intel and towards silicon would occur over the next two years). See also Charles Martin and Malcom Owen, "The history—and triumph—of Arm and Apple Silicon," Apple Insider, April 22, 2024, https://appleinsider.com/articles/24/04/22/the-history----and-triumph----of-arm-and-apple-silicon (As part of the transition to silicon, Apple's Macs would use chips based on Arm designs. The Mac Pro was the last machine to make the transition in June 2023.). Apple also uses its own Arm-based chips for its iPhone pursuant to its ALA with Arm. See Mike Wuerthele, "Apple & ARM's iPhone & Mac chip partnership will continue for decades," Apple Insider, September 5, 2023, https://appleinsider.com/articles/23/09/05/apple-arms-iphone-mac-chip-partnership-will-continue-for-decades.

<sup>526 &</sup>quot;Q3 2025 Qualcomm Inc. Earnings Call," Qualcomm, July 30, 2025, https://s204.q4cdn.com/645488518/files/doc\_events/2025/Jul/30/Q3FY25-Earnings-Call-Transcript\_7-30-25\_Final.pdf, p.3 (Qualcomm states its goal is to achieve \$4 billion in PC chip revenue by fiscal year 2029); "Q1 2025 Qualcomm Inc. Earnings Call," Qualcomm, February 5, 2025, https://s204.q4cdn.com/645488518/files/doc\_events/2025/Feb/05/QCOM\_Q1FY25EC\_Transcript\_2-5-24.pdf, p. 7. It's estimated that Qualcomm captured just 0.8% of the total PC market in Q3 2024. See Jowi Morales, "Qualcomm claims it owns 10% of U.S. Windows PC retail market for devices priced \$800 and up," Tom's Hardware, February 6, 2025, https://www.tomshardware.com/tech-industry/qualcomm-claims-it-owns-10-percent-of-u-s-windows-pc-retail-market-for-devices-priced-usd800-and-up.

<sup>&</sup>lt;sup>527</sup> Anton Shilov, "Arm-Based CPUs Could Double Notebook PC Market Share by 2027: Report," Tom's Hardware, April 11, 2023, <a href="https://www.tomshardware.com/news/arm-based-cpus-set-to-double-notebook-pc-market-share-by-2027">https://www.tomshardware.com/news/arm-based-cpus-set-to-double-notebook-pc-market-share-by-2027</a>.

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

forward, Qualcomm targets 12% of the overall PC segment, <sup>528</sup> and Arm aims to reach 50% share in the Windows PC segment by 2029. <sup>529</sup>

- Server Processor Segment: In 2018, Intel held a 98% share of server processors and x86 had a 98.9% share in Q4 2019.<sup>530</sup> However, with the recent successes from Arm-based processors, such as AWS Graviton, Google Axion, Microsoft Azure Cobalt, and Nvidia Grace, Arm-based products have gained a share of roughly 15% as of 2024.<sup>531</sup> AWS estimated that "over 50% of new CPU capacity added by AWS in the last 2 years is on Arm-powered Graviton."<sup>532</sup> As with the PC segment, a historically dominant ISA is not guaranteed to maintain its lead over time.
- Other industries: The fall of MySpace, AOL, and Blockbuster further illustrates that dominance can erode quickly. A 2007 article in *The Guardian* wondered: "will [social networking service] MySpace ever lose its monopoly?"<sup>533</sup> Less than 5 years later MySpace was "sold for \$35m in spectacular fall from \$12bn heyday."<sup>534</sup> A similar destiny befell

<sup>&</sup>lt;sup>528</sup> "Q1 2025 Qualcomm Inc. Earnings Call," Qualcomm, February 5, 2025, pp. 11-12, https://s204.q4cdn.com/645488518/files/doc\_events/2025/Feb/05/QCOM\_Q1FY25EC\_Transcript\_2-5-24.pdf.

<sup>&</sup>lt;sup>529</sup> Max Cherney, "Exclusive: Arm aims to capture 50% of PC market in five years, CEO says," Reuters, June 3, 2024, https://www.reuters.com/technology/arm-aims-capture-50-pc-market-five-years-ceo-says-2024-06-03/.

<sup>530</sup> Mark Liu, "x86 Server CPUs Remain Market Mainstream, 7nm Platform May Help AMD to Increase Market Share, Says TrendForce," TrendForce, November 28, 2018, <a href="https://www.trendforce.com/presscenter/news/20181128-10076.html">https://www.trendforce.com/presscenter/news/20181128-10076.html</a>; Stan Gibson, "AWS ARM-based chips could shift microprocessor market," TechTarget, April 28, 2020, <a href="https://www.techtarget.com/searchaws/feature/AWS-ARM-based-chips-could-shift-microprocessor-market">https://www.techtarget.com/searchaws/feature/AWS-ARM-based-chips-could-shift-microprocessor-market</a>.

<sup>&</sup>lt;sup>531</sup> Max Cherney, "Exclusive: Arm aims to capture 50% of PC market in five years, CEO says," Reuters, March 31, 2025, <a href="https://www.reuters.com/technology/arm-expects-its-share-data-center-cpu-market-sales-rocket-50-this-year-2025-03-31/">https://www.reuters.com/technology/arm-expects-its-share-data-center-cpu-market-sales-rocket-50-this-year-2025-03-31/</a>. Arm estimates that its share of "Cloud Compute" is 20%. "Arm Holdings plc, Q1 FYE26 Investor Presentation," Arm Holdings, July 30, 2025, <a href="https://investors.arm.com/static-files/dae25601-3e5a-4d40-b9f5-e0149989e553">https://investors.arm.com/static-files/dae25601-3e5a-4d40-b9f5-e0149989e553</a>.

<sup>&</sup>lt;sup>532</sup> "AWS and Arm," Arm, <a href="https://www.arm.com/markets/computing-infrastructure/cloud-computing/aws#1">https://www.arm.com/markets/computing-infrastructure/cloud-computing/aws#1</a>, accessed August 29, 2025. See also "AWS re: Invent 2024 - Monday Night Live with Peter DeSantis," AWS, YouTube.com, December 3, 2024, <a href="https://www.youtube.com/watch?v=vx36tyJ47ps&t=1041s">https://www.youtube.com/watch?v=vx36tyJ47ps&t=1041s</a>;.

<sup>&</sup>lt;sup>533</sup> Victor Keegan, "Will MySpace ever lose its monopoly?" The Guardian, February 8, 2007, https://www.theguardian.com/technology/2007/feb/08/business.comment.

<sup>534</sup> Dominic Rushe, "Myspace sold for \$35m in spectacular fall from \$12bn heyday," The Guardian, June 30, 2011, https://www.theguardian.com/technology/2011/jun/30/myspace-sold-35-million-news.

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 448 of 616 PageID #: 26941

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

instant messaging AOL.<sup>535</sup> Blockbuster dominated the video rental space, but failed to recognize the threat posed by Netflix and other streaming services, even turning down an opportunity to acquire Netflix for \$50 million in 2000.<sup>536</sup>

218. Prof. Posner argues that, due to "network effects," Arm's ecosystem is protected by "entry barriers." While "network effects" are a feature of this industry and "entry barriers" exist, as they do in many industries, Prof. Posner provides no evidence about how "high" they are, much less that they are insurmountable. He does not attempt to quantify the strength of the effects or demonstrate that the "entry barriers" are so high to isolate Arm from competition. <sup>538</sup> In fact, Arm's recent success in segments previously dominated by x86 shows that "network effects" are not insurmountable (i.e., network effects did not protect x86's shares). The very fact that Qualcomm views RISC-V as a potentially viable alternative to Arm—even for high performance applications—suggests that Qualcomm does not view this existing "barrier to entry" as insurmountable. <sup>539</sup>

219. Moreover, contrary to Prof. Posner's suggestion, the presence of even strong "network effects" does not imply that an industry can only accommodate a single "ecosystem." Multiple ecosystems coexist in other industries with "strong" network effects such as smartphones (where iOS and Android compete by developing ecosystems of compatible hardware and software), credit

<sup>&</sup>lt;sup>535</sup> Mike Wehner, "AIM is officially dead, and your childhood means nothing," Yahoo!News, October 6, 2017, https://www.yahoo.com/news/aim-officially-dead-childhood-means-nothing-174900787.html.

<sup>&</sup>lt;sup>536</sup> Steve Mollman, "Blockbuster 'laughed us out of the room,' recalls Netflix cofounder on trying to sell company now worth over \$150 billion for \$50 million," Fortune, October 22, 2024, <a href="https://finance.yahoo.com/news/blockbuster-laughed-us-room-recalls-174322621.html.">https://finance.yahoo.com/news/blockbuster-laughed-us-room-recalls-174322621.html.</a>Currently, Blockbuster has a single store still operating, in Bend, Oregon. *See*, Saul Sugarman, "So I visited the last Blockbuster on the planet, and all I got was this t-shirt," The Bold Italic, December 8, 2023, <a href="https://thebolditalic.com/so-i-visited-the-last-blockbuster-on-the-planet-and-all-i-got-was-this-t-shirt-ffc6d2ed414d">https://thebolditalic.com/so-i-visited-the-last-blockbuster-on-the-planet-and-all-i-got-was-this-t-shirt-ffc6d2ed414d</a>.

<sup>&</sup>lt;sup>537</sup> Posner Report, ¶ 11 ("Arm's ISA ecosystem exhibits strong network effects"), 34 ("An ISA ecosystem is characterized by significant entry barriers"), ¶ 57 ("Arm's ecosystem is protected by entry barriers. Because so many companies specialize in Arm-compliant products, a firm that sought to develop a new ISA would have to not only produce a superior ISA. It would also have to persuade firms in the Arm ecosystem to give up their existing customers and develop products for a not-yet-existing set of customers.").

<sup>&</sup>lt;sup>538</sup> Posner Report, ¶¶ 34-35, discussing features of an industry that, Prof. Posner argues, lead to "significant entry barriers" but not providing any empirical evidence. *See also* ARMQC\_02770485.

<sup>&</sup>lt;sup>539</sup> See Section V.

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 449 of 616 PageID #:

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

cards (where multiple networks coexist), and ride share platforms (where Uber and Lyft coexist with their own ecosystems).<sup>540</sup>

### 3. <u>Any Attempt by Arm to Foreclose Customers Would Accelerate Development of Alternatives such as RISC-V</u>

220. Prof. Posner opines that Arm's actions "may" impede the development of alternative ISAs, such as RISC-V.<sup>541</sup> He claims that "if Arm [...] weakens" the firms that would otherwise support such alternatives, such alternatives "will have trouble attracting chipmakers and thus face greater barriers to entry."<sup>542</sup> He also claims that, "[i]f Qualcomm is badly wounded, then it may not be able to continue to support or boost RISC-V."<sup>543</sup> However, this claim is vague and unsupported. Prof. Posner does not define what "badly wounded" means, nor does he explain how such a condition would materially limit Qualcomm's ability to invest in RISC-V development. Moreover, he fails to weigh the countervailing incentive: that foreclosure would likely increase, not reduce, Qualcomm's motivation to support competing ISAs.

221. Prof. Posner's "badly wounded" claim seems to reflect the idea that, even if foreclosure increases incentives for Arm's customers to invest in other ISAs, those customers would have fewer financial resources to make those investments. This conjecture is highly speculative, however, and it implicitly assumes that the financial costs of foreclosure would outweigh the increased incentives to invest in alternative ISAs. In practice, many of Arm's customers—including Apple, Google, Meta, and Samsung—are large, well-capitalize enterprises with ample

Step Science S

<sup>&</sup>lt;sup>541</sup> Posner Report, ¶ 18.

<sup>&</sup>lt;sup>542</sup> Posner Report, ¶ 18.

<sup>&</sup>lt;sup>543</sup> Posner Report, ¶ 78. See *also id.*, ¶ 18.

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 450 of 616 PageID #: 26943

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

resources to invest in alternative ISAs,<sup>544</sup> and evidence shows that the dispute with Arm has further increased, rather than retreating, Qualcomm's efforts to develop RISC-V. <sup>545</sup> Industry commentators have also noted that any attempt by Arm to restrict access to its ISA is likely to accelerate efforts to develop RISC-V as a viable, open-source alternative to Arm in the smartphone segment and other applications. <sup>546</sup> Faced with foreclosure, a strong and innovative company such as Qualcomm would not remain idle; it would have a strong incentive to invest in and support an alternative to Arm's ISA.

222. In reality, Qualcomm has been investing in the RISC-V ISA ecosystem and has successfully shipped over a billion low-end RISC-V applications as of 2023.<sup>547</sup> As of June 2024,

<sup>544</sup> For example, Apple, Alphabet (Google's parent company), and Meta are among the top 10 companies in the world in terms of market capitalization, each with a capitalization of \$1.9 trillion or more (*see* Lyle Daly, "The Largest Companies by Market Cap in August 2025," The Motley Fool, August 4, 2025 <a href="https://www.fool.com/research/largest-companies-by-market-cap/">https://www.fool.com/research/largest-companies-by-market-cap/</a>) compared to a market capitalization of about \$145 billion for Arm as of August 29, 2025 ("Market Capitalization of Arm Holdings," Companies Market Cap, <a href="https://companiesmarketcap.com/arm-holdings/marketcap/">https://companiesmarketcap.com/arm-holdings/marketcap/</a>, accessed August 29, 2025). Samsung and Qualcomm have a capitalization of about \$330 billion as of August 29, 2025 ("Market Capitalization of Samsung," Companies Market Cap, <a href="https://companiesmarketcap.com/gualcomm/marketcap/">https://companiesmarketcap.com/gualcomm/marketcap/</a>, accessed August 29, 2025).

<sup>&</sup>lt;sup>545</sup> See Section V.A above.

<sup>&</sup>lt;sup>546</sup> See, for example, Abner Li, "Report: Arm cancels Qualcomm's instruction set, IP license for chip design," 9to5Google, October 22, 2024, <a href="https://9to5google.com/2024/10/22/report-qualcomm-arm-chip-design/">https://9to5google.com/2024/10/22/report-qualcomm-arm-chip-design/</a> ("Looking ahead, this Arm uncertainty could lead to the adoption of the open source RISC-V instruction set. Back in October of 2023, Qualcomm and Google announced work on a RISC-V Wear OS chip. The Android team is actively working on adding OS support with a focus on ensuring that "any CPU running RISC-V will have all of the features we expect to achieve high performance."). See also Linley Gwennap, "Editorial: Arm's No-Win Legal Fight," Tech Insights, <a href="https://www.techinsights.com/blog/editorial-arms-no-win-legal-fight">https://www.techinsights.com/blog/editorial-arms-no-win-legal-fight</a>, accessed August 29, 2025 ("Arm and Qualcomm are locked in an ugly public spat over the rights to Nuvia's CPU. Unresolved, this conflict could hamper Arm's progress in the PC market and foment interest in RISC-V.").

<sup>&</sup>lt;sup>547</sup> In November 2023, Ziad Asghar, VP of product management at Qualcomm, spoke at the RISC-V Summit about Qualcomm's efforts to develop RISC-V applications, highlighting that Qualcomm had shipped 650 million devices with RISC-V in 2022 and over a billion devices in total since then. "By 2022, just like we showed last year, we had shipped 650 million devices with RISC-V, that is an amazing number. [...] What has happened since then, today we are in excess of a billion devices that have RISC-V integrated microcontrollers in them. That's a massive number." *See* "Keynote: Unlocking Innovation with RISC-V and Qualcomm - Ziad Asghar," RISC-V International, YouTube, November 29, 2023, @ 4:37, <a href="https://www.youtube.com/watch?v=9h9LwkPnrUw&ab\_channel=RISC-VInternational">https://www.youtube.com/watch?v=9h9LwkPnrUw&ab\_channel=RISC-VInternational</a>. *See also* "What is RISC-V, and why we're unlocking its potential," Qualcomm, September 8, 2023, <a href="https://www.qualcomm.com/news/onq/2023/09/what-is-risc-v-and-why-were-unlocking-its-potential">https://www.qualcomm.com/news/onq/2023/09/what-is-risc-v-and-why-were-unlocking-its-potential</a> ("To date, Qualcomm Technologies has shipped in excess of 650 million RISC-V cores.");

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 451 of 616 PageID #: 26944

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Qualcomm has various ongoing development efforts, including support for high performance RISC-V CPU and handset applications, 548
This is contrary to Prof. Posner's claim that Qualcomm "may
not be able to continue to support or boost RISC-V."550
223. While RISC-V's current commercialization is concentrated in low-end applications such
as microcontrollers and IoT, it is generally regarded as having high potential, 551 with various firms
investing in its development. 552 Qualcomm's leadership has repeatedly emphasized this view,
548
549
Cortex-A78 is categorized as a
"High-Performance CPU" on Arm's product listing. "CPU Cortex-A78," Arm <a href="https://www.arm.com/products/silicon-ip-cpu/cortex-a/cortex-a78">https://www.arm.com/products/silicon-ip-cpu/cortex-a/cortex-a78</a> , accessed August 29, 2025 ("Designed for high-end performance at best efficiency, Cortex-A78 enables superior immersive experiences, bridging the gap between mobile and laptop performance. Optimized for new form factors and foldables, Cortex-A78 is ready for the next wave of mobile innovation and continues Arm's industry-leading mobile performance and efficiency with 5G device architecture.").
<sup>550</sup> Posner Report, ¶ 78.
NVIDIA uses RISC-V in its microcontroller. <i>See</i> "How NVIDIA Shipped One Billion RISC-V Cores In 2024," RISC-V International, February 25, 2025, <a href="https://riscv.org/blog/2025/02/how-nvidia-shipped-one-billion-risc-v-cores-in-2024/">https://riscv.org/blog/2025/02/how-nvidia-shipped-one-billion-risc-v-cores-in-2024/</a> .

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 452 of 616 PageID #: 26945

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

highlighting RISC-V's properties in terms of performance, power efficiency, and customization.<sup>553</sup> In 2023, Qualcomm reported that over a billion of its devices already include RISC-V microcontrollers, and it continues to expand its RISC-V roadmap across mobile, automotive, and industrial applications.<sup>554</sup>

224. Apart from Qualcomm, various efforts within the industry are already underway to advance RISC-V for use in higher-end applications. <sup>555</sup> For example, AheadComputing—a startup founded

Andrew Howard, Vice President of Partner Success and Licensing at Arm, testified that he sees RISC-V as a significant competitor in "in low-end markets [...] I believe RISC-V is a viable substitute for Cortex M -- ARM M Profile CPUs" and that he has "knowledge that we did not achieve licenses with some customers. And sales documented it was due to RISC-V being chosen." *See* Howard (Arm) Deposition, 161:20-162:25. Similarly, Peter Greenhalgh, SVP of technology at Arm, stated that "There are markets today where RISC-V is a totally viable alternative and is being favored over ARM. [...] An example would be Hardware Security Modules -- so we call them HSMs -- where they tend to use RISC-V CPUs instead of ARM CPUs. That would be one of the examples. There are other cases where in terms of sudden microcontroller functionality, which is on the larger applications processor, people will favor using a RISC-V CPU, rather than an ARM CPU. [...] And another example would be the controller functions which are embedded on our applications processor." *See* Greenhalgh (Arm) Deposition, 100:3-23. *See also* ARMQC\_02740205 at '214, a May 2024 presentation on assumptions about RISC-V's effect on Arm's IoT sales.



November 2023, Mr. Asghar spoke at the RISC-V Summit, touting RICS-V's "many advantages," "massive opportunity," and momentum, as well as its deployment in over a billion Qualcomm devices that have RISC-V microcontrollers: "I think one thing is very clear – we are at a great point where RISC-V is really gaining momentum [...] we have multitude of products that are coming out that are all able to use many of the advantages that RISC-V brings. [@ 0:36] [...] When you look at what we have from mobile perspective and from the side of automotive and industrial IoT, AR and VR devices. It's a massive opportunity. [@ 1:00] [...] [A] product that has better performance [...] better power consumption [...] Those are all areas where RISC-V can really excel and differentiate itself. [...] the opportunity is just massive for RISC-V. [@ 2:19] [...] We just launched our latest platforms – the Snapdragon 8 Gen 3 and also the Snapdragon X Elite for PC side – but we have the ability to be able to do even better with RISC-V [...] the breadth and the momentum [...] the full scale of what RISC-V ecosystem looks like and that's amazingly promising. [@3:10] [...] By 2022, just like we showed last year, we had shipped 650 million devices with RISC-V, that is an amazing number. [...] What has happened since then, today we are in excess of a billion devices that have RISC-V integrated microcontrollers in them. That's a massive number. [@4:37]" "Keynote: Unlocking Innovation with RISC-V and Qualcomm - Ziad Asghar," RISC-V International, YouTube, November 29, 2023, https://www.youtube.com/watch?v=9h9LwkPnrUw&ab\_channel=RISC-VInternational.

<sup>555</sup> RISC-V has features of a disruptive innovator, as discussed, for example, in Gans, Joshua "The Disruption Dilemma," MIT Press, 2016.

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 453 of 616 PageID #: 26946

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

by former Intel chip architects—is developing RISC-V for "high-performance cores for servers and data centers" and "scalable solutions for mobile and edge applications" using RISC-V. 556 Arm has itself acknowledged in a January 2024 presentation that RISC-V has gained traction as the "preferred arch[itecture]" in certain data center products and with competitors like Tenstorrent and Ventana building full-stack RISC-V systems. 557

- 225. Therefore, contrary to Prof. Posner's claims, Arm's alleged conduct and associated effect on Arm's reputation could lead to faster erosion of its share in favor of RISC-V.
- 226. In summary, Qualcomm's early and ongoing investment in RISC-V, and the recognition within the industry, demonstrates that RISC-V ISA is a growing and credible competitor to the Arm ISA. While RISC-V's commercialization has been limited to low-end applications thus far, sustained development efforts—by Qualcomm and various firms—are expanding its viability to be adopted in higher-end CPU products and other applications. Contrary to Prof. Posner's claim that, facing the alleged foreclosure by Arm, Qualcomm "may not be able to continue to support or boost RISC-V," 558 the evidence shows the opposite: the dispute has only strengthened Qualcomm's incentive to accelerate RISC-V development, thereby increasing—not reducing—ISA competition.

design," TechSpot, June 12, 2025, <a href="https://www.techspot.com/news/108281-former-intel-engineers-form-aheadcomputing-break-cpu-performance.html">https://www.techspot.com/news/108281-former-intel-engineers-form-aheadcomputing-break-cpu-performance.html</a>. See also QCARM\_7484882. Similarly, Qualcomm, NXP, Infineon, Bosch, and Nordic Semiconductor formed a joint venture named Quintauris to accelerate the adoption of RISC-V technology. Financial services company CGS International commented that: "For most other low power markets, Arm remains the ISA of choice, due to its history, vastly superior software ecosystem, and strong product offerings. The joint venture by Qualcomm/NXP/Infineon/Bosch/Nordic to develop RISC-V hardware modestly increases competitive pressure on Arm, but JV product timelines are still uncertain and initial designs will be limited to auto." CGS International, "Arm Holdings pcl - Initiate at Outperform and \$160 PT; Content Story in Early Innings," US Equity Research, Sept 12, 2024, p. 9.

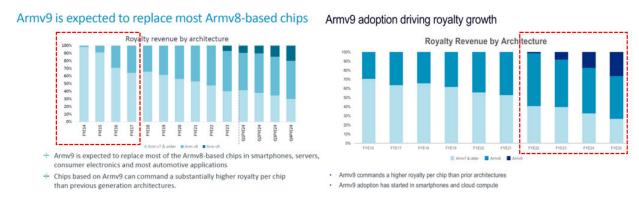
<sup>&</sup>lt;sup>557</sup> "RV [RISC-V] competitors (Tenstorrent, Ventana, ...) have developed full (CPU + Mesh + AI accl[elerator] + IO hub) systems targeted towards datacenters/6G," where Arm needs to actively bring business in early versus RISC-V and "formally communicate details on competition." ARMQC 02726982 at '989.

<sup>&</sup>lt;sup>558</sup> Posner Report, ¶ 78.

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

- 4. There Is No Evidence that Arm's Purported Decision to Stop Supporting v8 Is Anticompetitive
- 227. Qualcomm argues that "Arm has pressured existing v8 licensees to 'upgrade' their licenses to v9 by not releasing or supporting older v8 cores." However, I have seen no evidence of the alleged pressure, and Qualcomm and Prof. Posner do not provide any.
- 228. To assess this claim, I compare the transition from v8 to v9 with the earlier transition from v7 to v8. <sup>560</sup> If Qualcomm's claim were accurate, one would expect the shift from v8 to v9 to be faster than the shift from v7 to v8. Yet, the data do not support this conclusion: there is no evidence that the ongoing transition from v8 to v9 is faster. <sup>561</sup> The speed of penetration of v8, reflected in the expansion of the darker blue section at the top of the bars in the red box on the left, is similar to the speed of penetration of v9, reflected in the expansion of the darkest blue section at the top of the bars in the red box on the right.
- 229. Although this test is admittedly rudimentary and not without limitations, it nonetheless provides more substantive insight than the speculative claims and absence of supporting evidence offered by Qualcomm and Prof. Posner.<sup>562</sup>

**Exhibit 6: Royalty Revenue by Technology**<sup>563</sup>



230. It is, moreover, standard commercial practice for firms to promote newer versions of their technology. What Qualcomm characterizes as "pressure to upgrade" is better understood as Arm encouraging its customers to adopt improved products and highlighting that the benefits of switching to its newer technology outweigh the costs.<sup>564</sup>

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 455 of 616 PageID #: 26948

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

231. In conclusion, Arm faces real and growing competition from x86 and RISC-V, continues to invest heavily in R&D, and operates in a dynamic ecosystem where sustained success is not guaranteed. The evidence shows that Arm's conduct—including its licensing practices, pricing, and product transitions—is consistent with standard commercial behavior. Attempts to foreclose customers like Qualcomm would likely accelerate the development of competing ISAs, undermining Arm's own ecosystem. Prof. Posner's analysis fails to account for these constraints and costs, rendering his conclusions speculative and incomplete.

## IX. PROF. POSNER HAS NOT DEMONSTRATED THAT ARM'S CONDUCT HARMED COMPETITION AND CONSUMERS

232. Qualcomm claims that it suffered harm as a result of Arm's conduct. For Prof. Posner claims that, because of Arm's conduct, the downstream OEMs will either pay more for chips or be required to settle for lower-quality chips, to the detriment of the ultimate consumer. However, even if these unsubstantiated claims were true, harm to Qualcomm is not the same as (and does

<sup>&</sup>lt;sup>559</sup> SAC, ¶ 70.

<sup>&</sup>lt;sup>560</sup> David Brash, "The ARMv8-A architecture and its ongoing development," Arm Community, December 2, 2014 <a href="https://community.arm.com/arm-community-blogs/b/architectures-and-processors-blog/posts/the-armv8-a-architecture-and-its-ongoing-development">https://community.arm.com/arm-community-blogs/b/architectures-and-processors-blog/posts/the-armv8-a-architecture-and-its-ongoing-development</a>.

<sup>&</sup>lt;sup>561</sup> For example, v8's share increased from a few percentage points in FY2014 to about 30% in FY2016, while v9's share increased from essentially zero in FY2022 to about 20% in the last guarter of FY2024.

<sup>&</sup>lt;sup>562</sup> One reason why the test is imperfect is that many factors may be different between the two transitions, in addition to the alleged lack of support for v8. For example, the relative improvement of v9 over v8 and v8 over v7 can be a factor.

<sup>&</sup>lt;sup>563</sup> Source: "Arm Holdings plc Q4 FYE24 Results Presentation," Arm Holdings, May 8, 2024, <a href="https://investors.arm.com/static-files/4f2fc46b-34a5-4bc5-94af-f13fbc348f0e">https://investors.arm.com/static-files/4f2fc46b-34a5-4bc5-94af-f13fbc348f0e</a> (left chart); "Arm Holdings plc, Q1 FYE26 Investor Presentation," Arm Holdings, July 30, 2025, <a href="https://investors.arm.com/static-files/dae25601-3e5a-4d40-b9f5-e0149989e553">https://investors.arm.com/static-files/dae25601-3e5a-4d40-b9f5-e0149989e553</a> (right chart).

<sup>&</sup>lt;sup>564</sup> For example, when Apple introduces a new iPhone, it generally "pushes" customers to upgrade through advertising.

<sup>&</sup>lt;sup>565</sup> SAC, ¶ 34.

<sup>&</sup>lt;sup>566</sup> Posner Report, ¶ 72.

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 456 of 616 PageID #: 26949

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

not imply) harm to competition or consumers.<sup>567</sup> As a simple application of this general principle, entry into the supply of custom chips, including by Qualcomm's customers that start to develop their own custom chips for their own consumption or for supply to third parties, would harm Qualcomm but is likely to benefit competition and consumers.

- 233. As an example of harm to Qualcomm that is not harm to competition, Qualcomm argues that Arm's conduct allowed Qualcomm's customers to receive better financial terms (i.e., Qualcomm charged its customers less). This is wholly unsubstantiated, but even if true, it may represent a benefit rather than harm to consumers because the lower cost to Qualcomm's customers can, to some extent, be passed-through to their own customers.
- 234. Qualcomm and Prof. Posner have neither shown that Qualcomm suffered competitive injury, nor, more importantly, have they shown that any such claimed harm caused harm to competition and consumers.

Economists have explained why competition rather than competitors must be protected. Disruptive innovations and creative destruction can harm competitors but more importantly benefit consumers. "The goal of antitrust policy is to protect and promote a vigorous competitive process. Effective rivalry spurs firms to introduce new and innovative products, as they seek to capture profitable sales from their competitors and to protect their existing sales from future challengers." Federico, Giulio, Fiona Scott Morton, and Carl Shapiro, "Antitrust and Innovation: Welcoming and Protecting Disruption," Innovation Policy and the Economy, 2020, Vol. 20, pp. 125-190. On "creative destruction," see Schumpeter, Joseph, "Capitalism, Socialism, and Democracy," Harper & Brothers Publishers, 1942.

<sup>567</sup> This basic economic principle has been embraced by the Supreme Court, which, in discussing price reductions that harm competitors, stated: "To hold that the antitrust laws protect competitors from the loss of profits due to such price competition would, in effect, render illegal any decision by a firm to cut prices in order to increase market share. The antitrust laws require no such perverse result, for '[i]t is in the interest of competition to permit dominant firms to engage in vigorous price competition, including price competition." The Court went on emphasized that reducing prices in order to expand sales is often "the very essence of competition" and that "mistaken inferences . . . are especially costly because they chill the very conduct the antitrust laws are designed to protect." *See Cargill, Inc. v. Monfort of Colorado, Inc.*, 479 U.S. 104 (1986). In another matter, the Supreme Court succinctly held that antitrust laws protect "competition, not competitors" (*Brown Shoe Co., Inc. v. United States*, 370 U.S. 294 (1962) at 370 U.S. 344). The Supreme Court reiterated this conclusion in *Brunswick Corp. v. Pueblo Bowl-O-Mat, Inc.*, 429 U.S. 477 (1977) at 429 U.S. 488. ("The antitrust laws, however, were enacted for 'the protection of competition, not competitors").

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 457 of 616 PageID #:

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

235. As I discuss above, Arm's strategy is to work with its customers to promote and expand the ecosystem of Arm-based technology.<sup>569</sup> I also discuss above that Arm profits from the success of its customers, and their success in developing Arm-based rather than, e.g., RISC-V-based, technologies.<sup>570</sup> It is therefore natural and unsurprising that there is no evidence of Arm attempting to harm its customers.

#### A. Qualcomm Has Not Demonstrated that Arm Had Anticompetitive Intent

- 236. Qualcomm's SAC claims—without evidence—that Arm started the *Arm v. Qualcomm* litigation for anticompetitive reasons and that its conduct had the objective to harm Qualcomm.<sup>571</sup> Prof. Posner offers no evidence that Arm's conduct was anything other than a legitimate effort to protect its contractual rights and business model.
- 237. I do not opine on Arm's intent, which is a fact question for the Court to decide. Counsel for Arm has instructed me to assume that Arm started the *Arm v. Qualcomm* litigation to exercise its contractual rights, not to foreclose Qualcomm. However, I note that various factors suggest that Arm's actions were not aimed at harming Qualcomm, one of its main customers.
  - i. The *Arm v. Qualcomm* litigation is the first and only time Arm has filed a lawsuit against a customer.<sup>572</sup> This underscores the rarity and exceptional nature of the dispute. A one-off lawsuit is not indicative of a pattern of exclusionary conduct against customers or a broader strategy to suppress competition. Arm's strategy consists of working with its licensees to

<sup>&</sup>lt;sup>569</sup> Will Abbey, "Flexible Licensing, Boundless Innovation: How Arm is Accelerating Partner Success," Arm, November 1, 2023 <a href="https://newsroom.arm.com/blog/arm-licensing-models">https://newsroom.arm.com/blog/arm-licensing-models</a>. (Abbey stated that "[t]hirty years on, a core philosophical tenet of Arm's original IP licensing model underpins its expanded subscription strategy to foster innovation: Arm only succeeds when partners succeed." *See also* ARMQC\_02725050 at '068 (A September 2020 presentation discusses partner efforts on the Windows-on-Arm ecosystem and details partner collaborations to provide developer support and expand enterprise application readiness).

<sup>&</sup>lt;sup>570</sup> Section VII.C. *See also* Chloe Ma's (Chief Business Officer at Arm) statement on leveraging Arm's partners, rather than focusing on RISC-V-based technologies, to drive success. ARMQC\_02600713 at '719; Paul Williamson, "Arm Continues to Accelerate IoT Software Development with New Partnerships," Arm Newsroom, November 7, 2022, <a href="https://newsroom.arm.com/news/arm-continues-to-accelerate-iot-software-development-with-new-partnerships">https://newsroom.arm.com/news/arm-continues-to-accelerate-iot-software-development-with-new-partnerships</a>.

<sup>&</sup>lt;sup>571</sup> SAC, ¶ 207.

<sup>&</sup>lt;sup>572</sup> Rene Haas' trial testimony in *Arm v. Qualcomm*, 272:1-15 ("[In August 2022,] we were at a fork in the road, we were either going to continue for another 18-months plus to look the other way, or do something we had never done in our history and that was to file a claim, a lawsuit against a customer. But we made the choice to file the claim.").

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 458 of 616 PageID #:

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

build out the network of Arm-based technology and suing a customer runs counter to Arm's collaborative strategy. This exceptional case highlights that Arm has thus far been able to work productively with its licensees in furthering the use cases and value of its ecosystem, but it considered that it had to take action in view of a perceived breach of contract after Qualcomm's acquisition of Nuvia.

ii. While Qualcomm claims that the lawsuit was "meritless," Qualcomm ignores the fact that it did pass key pretrial motions, including a summary judgment motion. These procedural outcomes indicate that Arm's claims were sufficiently substantiated to warrant a trial. Filing a lawsuit is a standard and legitimate recourse when parties are unable to reach a resolution through private negotiations. Such action cannot be considered anticompetitive per se; on the contrary, judicial resolution of uncertainty can promote clarity, expand trade, and strengthen incentives to innovate. The strength of the fact that the lawsuit was "meritless," Qualcomm ignores that the lawsuit was "meritless," Qualcomm ignores that the lawsuit was "meritless," Qualcomm ignores that the lawsuit was "merit

#### B. Arm's Litigation Position Was Public and Transparent from as Early as 2022

238. Qualcomm claims that "[a]pparently seeking to ratchet up pressure on Qualcomm before trial in *Arm v. Qualcomm*, on October 22, 2024, Arm sent Qualcomm—and leaked to the media—a letter [...] asserting that Qualcomm is in material breach of the QC ALA for allegedly developing and marketing 'unlicensed cores,' and claiming that Arm will be entitled to terminate the [Qualcomm] ALA if Qualcomm does not capitulate to Arm's demands for a 'cure' within 60

<sup>&</sup>lt;sup>573</sup> SAC, ¶ 8.

<sup>&</sup>lt;sup>574</sup> See Qualcomm Inc. v. Arm Holdings, plc., C.A. No. 24-490-MN, Dkt. No. 233, Arm's Opening Brief In Support of Its Partial Motion To Dismiss Qualcomm's Second Amended Complaint, June 17, 2025, p. 3 ("On October 30, 2024, the Court [in the Arm v. Qualcomm case] denied Qualcomm's and Arm's motions for summary judgment, holding that genuine issues of material fact remained for the jury.").

<sup>&</sup>lt;sup>575</sup> Contractual disputes arising from honest disagreements over the correct interpretation of contractual terms are common. They can arise for a variety of reasons such as ambiguous or unclear language, and incomplete or imprecise terminology, which in turn may lead to the parties having different understandings and diverging interpretations. *See* Posner, Richard A., "The Law and Economics of Contract Interpretation," 2004, 83 Texas Law Review 1581 ("[S]ignificant interpretive questions often arise in contract litigation. The obvious but not the only reason, besides clumsiness in the use of words, against which the legal linguists warn us, is that contractual performance generally occurs over time rather than being complete at the instant the contract is signed. This is a central rather than an accidental feature of the institution of contract.").

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 459 of 616 PageID #: 26952

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

days."<sup>576</sup> Qualcomm also claims that the Breach Letter was "timed and publicly released in an effort to damage Qualcomm's business," because it coincided with "Qualcomm's annual Snapdragon® Summit."<sup>577</sup> Prof. Posner claims that Arm "leaked the notice letter" and "interfered with Qualcomm's relationship with its customers by sowing doubts about Qualcomm's continued ability to sell Arm-compliant chips."<sup>578</sup>

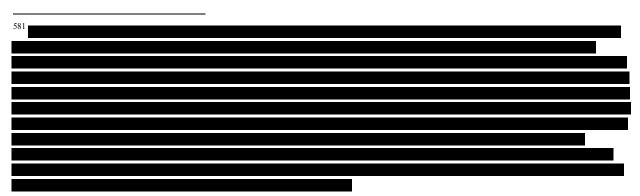
239. Prof. Posner and Qualcomm do not explain how Arm's October 2024 letter and its publication could interfere with Qualcomm's business opportunities given that, as early as 2022, Arm repeatedly, clearly, and publicly stated that (a) Qualcomm was in breach of the Qualcomm ALA and (b) Arm had the right to terminate the ALA as a result. <sup>579</sup> As discussed earlier, Qualcomm also recognized that Arm's October 2024 Breach Letter was not "new news." Nor do they explain how the notice could have harmed the competitive process.

240.	
√76 SAC, ¶ 29.	
<sup>377</sup> SAC, ¶ 33.	
<sup>78</sup> Posner Report, ¶¶ 45, 65.	
<sup>79</sup> I understand that Arm has also maintained that it retains the right to terminate the agreement if Qualcomm found to have breached its terms.	is

<sup>&</sup>lt;sup>580</sup> In *Arm v. Qualcomm*, Qualcomm's counsel acknowledged during the November 20, 2024 pre-trial conference that Arm's allegation of breach of the Qualcomm ALA has been part of the case "starting at the very beginning" and that "the letter on October 22nd [was] actually not new news in the sense of alleging [Qualcomm's] breaches" of the Qualcomm ALA because that claim was in the case "starting at the very beginning." *See also Arm v. Qualcomm*, No. 22-1146 (MN), Pretrial Conference Transcript, November 20, 2024, pp. 13, 14 ("And in response to that, there have been repeated allegations that the Qualcomm ALA has been breached by Qualcomm. The letter on October 22nd is actually not new news in the sense of alleging these breaches. It has been in the case squarely and we anticipate that it is going to be raised by ARM in response to the arguments that we have regarding the fact that our products are licensed.").

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

241. Arm filed the *Arm v. Qualcomm* litigation on August 31, 2022.<sup>582</sup> The lawsuit was widely reported in the press.<sup>583</sup> In a publicly available filing dated November 15, 2022, submitted in the context of the *Arm v. Qualcomm* litigation, Arm reiterated and clarified its position.<sup>584</sup> The filing was also reported in detail in the press.<sup>585</sup>



<sup>&</sup>lt;sup>582</sup> Arm Ltd. v. Qualcomm Inc., No. 1:22-cv-01146 (D. Del. filed August 31, 2022), Dkt. No. 1.

https://www.theregister.com/2022/08/31/arm\_sues\_qualcomm/. See also Stephen Nellis and Jane Lee, "Arm sues Qualcomm, aiming to unwind Qualcomm's \$1.4 bln Nuvia purchase," Reuters, September 1, 2022, https://www.reuters.com/legal/chips-tech-firm-arm-sues-qualcomm-nuvia-breach-license-trademark-2022-08-31.

<sup>583</sup> For example, an article on the same day the lawsuit was filed reported: "Arm is suing Qualcomm, one of its key customers, in a row over the latter's Nuvia custom CPU cores. [...] Arm has accused Qualcomm of being in breach of its licenses, and it wants the American giant to fulfill its obligations under those agreements, such as destroying its Nuvia CPU designs, plus cough up compensation." The article further reported: "According to Arm [...] the licenses it granted Nuvia could not be transferred to and used by its new parent Qualcomm without Arm's permission. Arm says Qualcomm did not, even after months of negotiations, obtain this consent, and that Qualcomm appeared to be focused on putting Nuvia's custom CPU designs into its own line of chips without permission. That led to Arm terminating its licenses with Nuvia in early 2022, requiring Qualcomm to destroy and stop using Nuvia's designs derived from those agreements." See Chris Williams, "Arm sues Qualcomm over custom Nuvia CPU cores, wants designs destroyed," The Register, August 31, 2022,

<sup>584</sup> See Arm Ltd. v. Qualcomm Inc., No. 1:22-cv-01146-MN, Dkt. No. 1 (D. Del. August 31, 2022, filed November 15, 2022), at pp. 2-3 and ¶¶ 41, 230, 237, 250, ("Qualcomm is not only trying to develop an unlicensed product, but is also materially breaching its ALA with Arm. [...] Within days after Qualcomm first contacted Arm about its planned acquisition of Nuvia, Arm informed Qualcomm in writing that it would need to enter into a new agreement if it wished to continue using the designs and technology that had been created pursuant to the Nuvia ALA. Arm did not wait in the weeds; it openly and promptly identified and communicated Nuvia's and Qualcomm's obligations. [...] Qualcomm and Nuvia must stop using and destroy any Arm-based technology developed under Nuvia's ALA, and that neither Qualcomm nor Nuvia is licensed to continue developing this technology. [...] Qualcomm is not authorized to make, use, sell, or import a product incorporating designs or derivatives of the NuVia [sic] technology. [...] Qualcomm is materially breaching its ALA, giving Arm the right to terminate, and the Qualcomm ALA does not provide a license for or right to continue development of the Nuvia technology.").

<sup>&</sup>lt;sup>585</sup> See, for example, Dylan Patel, "Arm's Nuclear Option – Qualcomm Must Cancel Next-Generation Products If Arm Succeeds," SemiAnalysis, November 16, 2022, <a href="https://semianalysis.com/2022/11/16/arms-nuclear-option-">https://semianalysis.com/2022/11/16/arms-nuclear-option-</a>

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 461 of 616 PageID #: 26954

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

- 242. Arm's first communication with Qualcomm's customers who use products that embed Arm's technology occurred soon after filing the *Arm v. Qualcomm* litigation. <sup>586</sup> Arm had a legitimate reason to make its position known to users of its technology, to confirm and clarify the accounts in the public press, and to reassure customers of its lawful commitment to protect its IP. <sup>587</sup> Prof. Posner does not explain why that would generate harm for Qualcomm that is incremental to the alleged harm from the filing itself.
- 243. Similarly, Prof. Posner does not explain why the October 2024 Breach Letter would affect customer expectations or behavior given that for over two years Arm had repeatedly and publicly stated its belief that Qualcomm was in breach if its ALA, and a decision in the *Arm v. Qualcomm* litigation was expected only two months after the October 2024 Breach Letter.<sup>588</sup>

qualcomm-must/. See also Chris Williams, "Arm shells Qualcomm's Snapdragon launch party with latest salvo in

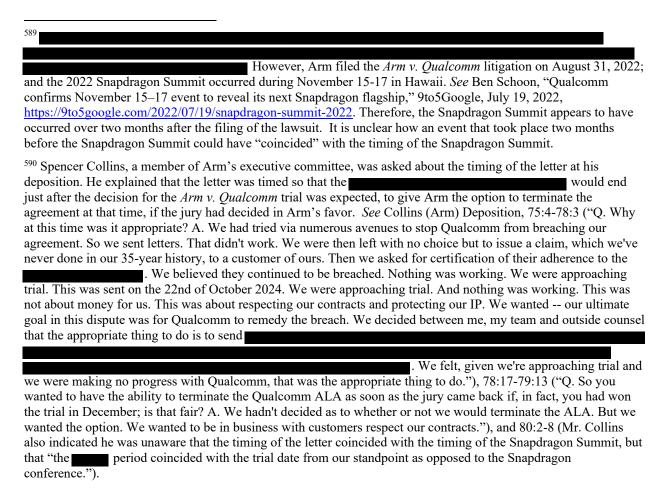
license war," The Register, November 16, 2022, https://www.theregister.com/2022/11/16/arm\_qualcomm\_licensing\_latest/.

| All the content of t

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 462 of 616 PageID #: 26955

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

- 244. Qualcomm and Prof. Posner also take issue with the "timing" of the letter and associated "leak." <sup>589</sup> However, Qualcomm and Prof. Posner do not explain why the alleged harm was increased by the fact that the notice was sent at the time of Qualcomm's annual Snapdragon Summit. <sup>590</sup> This is speculative and unsupported by evidence.
- 245. Arm had legitimate reasons to inform its customers of the dispute with Qualcomm and its view that Qualcomm was in breach of its ALA, and to clarify its position with users of its technology. Arm's outreach to Qualcomm's customers who use products that embed Arm's technology was a reasonable and commercially justified response to an ongoing contractual dispute, not anticompetitive conduct. First, Arm had a legitimate interest in ensuring that customers were aware of potential legal and licensing risks associated with Qualcomm's Nuvia-



# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

based CPUs that were at the center of the contractual dispute.<sup>591</sup> This kind of communication is common.<sup>592</sup> Second, maintaining transparency with customers helps preserve the integrity of Arm's licensing model. Failure to communicate could have created confusion or undermined confidence in Arm's IP rights, particularly given the public nature of the dispute.

246. High-tech companies operate in dynamic and uncertain environments, where well-managed firms routinely assess and mitigate risk. Arm's decision to protect its IP and seek judicial resolution of its dispute with Qualcomm is not anticompetitive. Even if this prompted some Qualcomm customers to seek "reassurance" or pause to evaluate the situation, such responses are typical in commercial settings and do not constitute harm to competition. This is not different from a firm suing for patent violation, which may also induce customers of the allegedly violating firm to require "assurance." In fact, Qualcomm agrees that protection of IP is important. For example, Qualcomm stated that "[t]he drive to invent is a core value of Qualcomm's identity, and protection of inventors' rights is important to both the company and our business model. Economists and historians agree there has been no greater incentive to invent than protection of inventors' rights to the IP produced by their hard work and creativity. Patents are the primary means of protecting IP and represent a rule-of-law guarantee akin to a deed's role in protecting the ownership of land. [...] Strong patent protection in the United States and other economies

\_

<sup>&</sup>lt;sup>591</sup> Philip Hughes, VP for external communications at Arm, testified that the purpose of the communications to Qualcomm's customers who use products that embed Arm's technology was "just to inform customers why [Arm had] taken these actions." Deposition of Phil Hughes, June 17, 2025 (hereinafter "Hughes (Arm) Deposition"), 7:17-20; 27:4-18 ("Q. All right. And what was your understanding of the purpose of the communications to Qualcomm customers? A. Okay. Again, I think it – as I recall, it was more just to inform customers why we'd taken these actions. Q. And when you say, "to inform customers why we'd taken these actions," what actions are you referring to? A. The – the lawsuit."). Concerning the publication of the October 2024 Breach Letter, Ami Badani, Chief Marketing Officer at Arm, testified that "our goal was to make sure that our customers and partners were informed, and that was our singular goal. [...] our goal was to inform our partners and customers because they would have found out anyways. So we wanted to make sure that we were getting in front of it with the right facts." Deposition of Ami Badani, August 1, 2025 (hereinafter "Badani (Arm) Deposition"), 7:20-22; 49:23-50:18.

<sup>592</sup> For example, during the *SCO v. IBM* litigation, the SCO Group sent letters to about 1,500 companies alleging that the use of Linux may infringe a copyright it holds on the original UNIX source code. "SCO Sends Warning Letters To Linux Users," InformationWeek, December 22, 2003, <a href="https://www.informationweek.com/it-leadership/sco-sends-warning-letters-to-linux-users">https://www.informationweek.com/it-leadership/sco-sends-warning-letters-to-linux-users</a>; Stephen Shankland, "SCO targets Linux customers," CNET, May 14, 2003, <a href="https://www.cnet.com/tech/services-and-software/sco-targets-linux-customers/">https://www.cnet.com/tech/services-and-software/sco-targets-linux-customers/</a>. Qualcomm also issued statements informing the broad public of lawsuits it files against other companies. For example, *see* "Qualcomm Files Lawsuit Against Motorola," Qualcomm, March 5, 1997
<a href="https://www.qualcomm.com/news/releases/1997/03/qualcomm-files-lawsuit-against-motorola">https://www.qualcomm.com/news/releases/1997/03/qualcomm-files-lawsuit-against-motorola</a>, "Qualcomm, Files GSM Patent Infringement Suit Against Nokia," Qualcomm, November 6, 2005
<a href="https://www.qualcomm.com/news/releases/2005/11/qualcomm-files-gsm-patent-infringement-suit-against-nokia.">https://www.qualcomm.com/news/releases/2005/11/qualcomm-files-gsm-patent-infringement-suit-against-nokia.</a>

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 464 of 616 PageID #: 26957

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

encourages investment in research and development by companies and individuals that has resulted in life-changing technologies, including the technologies that make possible the wireless communications that define our world today."<sup>593</sup> It is therefore not surprising that Qualcomm carefully protects its IP.<sup>594</sup>

247. In conclusion, the evidence demonstrates that Arm's litigation position was consistently public and transparent from the outset of its dispute with Qualcomm. Arm did not conceal its views or engage in a misinformation campaign; rather, it communicated its contractual concerns openly through legal filings and public statements beginning in 2022. The October 2024 Breach Letter did not introduce new information or disrupt Qualcomm's relationship with its customers, but instead reiterated Arm's long-standing position. There is no evidence that Arm's communications were a strategic attempt to harm competition rather than a commercially reasonable response to an unresolved contractual disagreement. These facts collectively undermine Qualcomm's and Prof. Posner's allegations and support the conclusion that Arm's conduct aligns with standard industry practice and reflects procompetitive behavior.

#### C. There Is No Evidence of Harm to Competition

248. Qualcomm's claim of harm is inconsistent with its market performance. Since the onset of the dispute, Qualcomm has expanded its product portfolio, entered new segments, and maintained strong financial performance—indicators of a firm that is competing successfully.<sup>595</sup> These facts undermine the allegation that Arm's conduct harmed Qualcomm in any meaningful way. Moreover, even if Qualcomm had demonstrated that it suffered harm, such harm to Qualcomm

<sup>&</sup>lt;sup>593</sup> "Invention and Intellectual Property [-] Protecting the value of invention," Qualcomm, <a href="https://www.qualcomm.com/company/corporate-responsibility/acting-responsibly/public-policy/our-positions/invention-and-intellectual-property">https://www.qualcomm.com/company/corporate-responsibility/acting-responsibly/public-policy/our-positions/invention-and-intellectual-property</a>, accessed August 28, 2025.

<sup>&</sup>lt;sup>594</sup> See footnote 350350.

<sup>&</sup>lt;sup>595</sup> See Section VI.

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 465 of 616 PageID #: 26958

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

does not equate to harm to competition. Antitrust analysis focuses on the impact to the competitive process and consumer welfare, not on the fortunes of individual firms.<sup>596</sup>

249. *First*, there is no evidence that Arm's decision to file its lawsuit against Qualcomm harmed competition. The legal process is a standard and legitimate mechanism for resolving genuine disputes about the terms of an agreement. While litigation may impose costs or harm upon both parties involved as well as their partners, it also serves to clarify contractual obligations, allow the parties to move forward with their businesses, and unlock the potential gains from trade that the dispute may have stalled.<sup>597</sup> Arm's decision to protect its IP and exercise its contractual rights reflects a lawful and commercially reasonable approach, not anticompetitive conduct, even if Qualcomm perceives harm to its own interests.

250. Second, Qualcomm's criticism of Arm's organic entry into chip design overlooks the procompetitive nature of such expansion. Entry by Arm introduces additional product variety and increases competitive pressure, which can benefit consumers through improved innovation and pricing. Prof. Posner fails to even consider this possibility, offering no analysis of the potential consumer benefits or efficiencies associated with Arm's organic vertical expansion. Rather than harming competition, Arm's entry reflects a natural evolution in response to customer demand and industry dynamics.



<sup>&</sup>lt;sup>596</sup> Congressional Research Service, "Antitrust Law: An Introduction," May 1, 2025, <a href="https://www.congress.gov/crs">https://www.congress.gov/crs</a> external products/IF/PDF/IF11234/IF11234.8.pdf ("The Goals of Antitrust: The federal antitrust laws seek to protect economic competition.... Antitrust cases generally turn on whether the conduct or transaction at issue enables the exercise of market power in ways that diminish consumer welfare, total welfare, or innovation.").

<sup>&</sup>lt;sup>597</sup> See, for example, Seitz, Michael and Martin Watzinger, "Contract enforcement and R&D investment," Research Policy, 2017, Volume 46, Issue 1 ("Motivated by the differences in innovation across countries, this paper evaluates the role of contract enforcement for R&D investments. We find empirical evidence that weak contract enforcement is associated with lower R&D investment: R&D intensity in an industry increases with the quality of the judicial system. This effect is particularly strong in industries that cannot buy inputs on competitive markets and thus depend more on contracts to acquire inputs. In line with this, we show that contract enforcement is particularly important in industries in which vertical integration is not a viable option.").

<sup>&</sup>lt;sup>598</sup> See Section VIII.B.2.

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 466 of 616 PageID #: 26959

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

- 252. *Fourth*, as discussed above, Arm's licensing practices remain open and widely accepted.<sup>601</sup> Arm continues to offer ALAs to a broad range of partners, including Apple, Google, and IBM, and TLAs to companies such as Microsoft, Samsung, and Texas Instruments.<sup>602</sup> Qualcomm and Prof. Posner provide no evidence that Arm has refused to license its ISA to other firms or restricted access in a manner that would harm competition.
- 253. *Fifth*, Qualcomm and Prof. Posner have not provided any evidence to show that Arm's action adversely affected any other ALA or TLA partner. The absence of harm to other licensees undermines Qualcomm's argument that Arm's actions have harmed competition, rather than simply impacting a single commercial relationship.
- 254. In summary, Qualcomm's allegations of competitive harm are not supported by evidence. Qualcomm's continued growth and diversification contradict the notion that Arm's conduct has harmed Qualcomm. Each of the specific actions attributed to Arm—whether enforcing its contractual rights, entering chip design, responding to customer needs, or maintaining open licensing practices—reflect standard commercial behavior, not harm to the competitive process or

Arm remains open through its extension of licensing agreements to various customers.

<sup>&</sup>lt;sup>599</sup> Awad (Arm) Deposition, 48:12-51:17.

<sup>&</sup>lt;sup>600</sup> Posner Report, ¶ 66.

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 467 of 616 PageID #: 26960

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

consumer welfare. The absence of harm to other licensees further reinforces the conclusion that this is a bilateral dispute, not a threat to competition.

I declare under penalty of perjury that the foregoing is true and correct.

Timothy S. Simcoe

September 5, 2025

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 468 of 616 PageID #: 26961

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

X. APPENDICES

# Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 469 of 616 PageID #: 26962

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

APPENDIX A: PROFESSOR TIMOTHY S. SIMCOE'S CV

### Timothy S. Simcoe

#### Contact

Boston University Questrom School of Business 595 Commonwealth Avenue Boston, MA 02215

(510) 685-2020 tsimcoe@bu.edu http://people.bu.edu/tsimcoe

### ACADEMIC EMPLOYMENT

### Boston University, Questrom School of Business

- David J. McGrath Jr. Professor in Strategy & Innovation, 2024-present.
- Professor of Strategy & Innovation, 2022-2024.
- Associate Professor of Strategy & Innovation, 2013-2022.
- Assistant Professor of Strategy & Innovation, 2009-2013.

### University of Toronto, Joseph L. Rotman School of Management

• Assistant Professor of Strategic Management, 2004-2009.

#### APPOINTMENTS

#### President's Council of Economic Advisers

• Senior Economist, 2014-2015.

#### National Bureau of Economic Research

- Research Associate, Productivity Program, 2016-present.
- Faculty Research Fellow, Productivity Program, 2009-2016.

### BU Technology & Policy Research Initiative

• Faculty Director, 2020-present.

### EDUCATION

#### University of California at Berkeley

- Ph.D., Business Administration, 2004
- M.A., Economics, 2003

#### Harvard University

• A.B., Applied Math & Economics, 1996

### **PUBLICATIONS**

### Refereed Articles

Mezzanotti, F. and T. Simcoe. Innovation, Patenting and Appropriability: Survey Evidence from a Nationally Representative Sample of U.S. Firms, *Review of Economics and Statistics*, forthcoming.

- R. A. Gibbs, T. Simcoe and D. Waguespack. Does Earnings Management Matter for Strategy Research *Strategic Management Journal*, forthcoming.
- B. Ganglmair, E. Tarantino and T. Simcoe. Learning When to Quit: An Empirical Model of Experimentation in Standards Development. *AEJ: Microeconomics*, 17(3):164–190, August 2025.
- C. Righi and T. Simcoe. Patenting Inventions or Inventing Patents? Continuation Practice at the USPTO. *RAND Journal of Economics*, 54(3):416–442, Fall 2023.
- J. Baron, B. Ganglmair, N. Persico, T. Simcoe and E. Tarantino. Representation is Not Sufficient for Selecting Gender Diversity. *Research Policy*, 53(6):104994, July 2024.
- R. Bekkers, C. Catalini, A. Martinelli, C. Righi and T. Simcoe. Disclosure Rules and Declared Essential Patents. *Research Policy*, 52(1):104618, January 2023.

- E. Basker and T. Simcoe. Upstream, Downstream: Diffusion and Impact of the Universal Product Code. *Journal of Political Economy*, 129(4):1252–1286, April 2021.
- A. King, B. Goldfarb and T. Simcoe. Learning from Testimony on Quantitative Research in Management. *Academy of Management Review*, 46(3):465–488, July 2021.
- X. Li and T. Simcoe. Competing or Complementary Labels? Estimating Spillovers in Chinese Green Building Certification. *Strategic Management Journal*, 42(13): 2451–2476, December 2021.
- A. Agrawal, C. Rosell and T. Simcoe. Tax Credits and Small Firm R&D Spending. American Economic Journal: Economic Policy, 12(1): 1–21. Lead Article, May 2020.
- M. Rysman, T. Simcoe and Y. Wang. Differentiation Strategies in the Adoption of Environmental Standards: LEED from 2000 to 2014. *Management Science*, 66(9): 4173–4192, September 2020.
- T. Simcoe and J. Watson. Forking, Fragmentation and Splintering. *Strategy Science*, 4(4):251–342, December 2019.
- F. Mezzanotti and T. Simcoe. Patent Policy and American Innovation After eBay: An Empirical Examination. *Research Policy*, 48(5): 1271–1281, June 2019.
- C. Righi and T. Simcoe. Patent Examiner Specialization. *Research Policy*, 48(1):137–148, February 2019.
- M. Lemley and T. Simcoe. How Essential are Standard Essential Patents? *Cornell Law Review*, 104(3): 607–642, March 2019 .
- M. Catillon, P. Gertler and T. Simcoe. Who Benefits Most in Disease Management Programs?: Improving Target Efficiency. *Health Economics*, 28(2): 189–203, February 2019.
- L. Freedman, I. Cockburn and T. Simcoe. The Economics of Reproducibility in Preclinical Research. *PLoS Biology*, 13(6): e1002165, June 2015.
- T. Simcoe and M. Toffel. Government Green Procurement Spillovers: Evidence from Municipal Building Policies in California. *Journal of Environmental Economics and Management*, 68(3):411–434. Lead article, November 2014.
- E. Rawley and T. Simcoe. Information, Knowledge and Asset Ownership in Taxicab Fleets. *Organization Science*, 24(3): 831–845, May-June 2013.
- J. Farrell and T. Simcoe. Choosing the Rules for Consensus Standardization. The RAND Journal of Economics, 43(2): 235-252, Summer 2012.
- T. Simcoe. Standard Setting Committees: Consensus Governance for Shared Technology Platforms. *American Economic Review*, 102(1): 305–336, February 2012.
- M. Rysman and T. Simcoe. A NAASTy Alternative to RAND Pricing Commitments. *Telecommunications Policy*, 35(11): 1010–1017, December 2011.
- A. Galasso and T. Simcoe. CEO Overconfidence and Innovation. *Management Science*, 57(8): 1469–1484, August 2011.
- T. Simcoe and D. Waguespack. Status, Quality and Attention: What's in a (Missing) Name? *Management Science*, 57(2): 274–290, February 2011.
- A. Mehta, M. Rysman and T. Simcoe. Identifying the Age Profile of Patent Citations: New Estimates of Knowledge Diffusion. *Journal of Applied Econometrics*, 25 (7): 1073–1222, November/December 2010.
- E. Rawley and T. Simcoe. Diversification, Vertical Contracting and Diseconomies of

- Scope: Evidence from the Taxicab Industry.  $Management\ Science,\ 56(9)$ : 1534–1550, September 2010.
- T. Simcoe, S. J. Graham and M. Feldman. Competing on Standards? Entrepreneurship, Intellectual Property and Platform Technologies. *Journal of Economics and Management Strategy*, 18(3): 775–816, Fall 2009.
- M. Rysman and T. Simcoe. Patents and the Performance of Voluntary Standard Setting Organizations. *Management Science*, 54(11): 1920–1934, November 2008.
- D. Mowery and T. Simcoe. Is the Internet a US Invention? An Economic and Technological History of Computer Networking. *Research Policy*, 31(8-9): 1369–1387, 2002.
- J. Macher, D. Mowery and T. Simcoe. eBusiness and the Semiconductor Industry Value Chain: Implications for Vertical Specialization and Integrated Semiconductor Manufacturers. *Industry and Innovation*, 9:155–181, 2002.

#### Working Papers

- Mezzanotti, F. and T. Simcoe. Research and/or Development: Financial Frictions and Innovation Investment. R&R at *Journal of Finance*
- N. Sahoo, T. Simcoe and X. Yang. Effects of Content Sourcing Strategy on Online News Subscription. R&R at MIS Quarterly.
- D-S. Jeon, Y. Lefouili, Y. Li and T. Simcoe. Ecosystems and Complementary Platforms.

#### Other Publications

- T. Simcoe. Standard Setting Organizations. Chapter in the *Elgar Encyclopedia on the Economics of Competition and Regulation*, forthcoming.
- K. Blind, M. Kenney, A. Leiponen and T. Simcoe. Standards and Innovation: A Review and Introduction to the Special Issue. *Research Policy*, 52(8), October 2023.
- J. Contreras, T. Simcoe et al. Preserving the Royalty-Free Standards Ecosystem. *European Intellectual Property Review*, 45(7): 371-375, June 2023.
- E. Hovenkamp and T. Simcoe. Tying and Exclusion in FRAND Licensing: Evaluating Qualcomm. *The Antitrust Source*, February 2020.
- A. Sesia, T. Simcoe and M. Toffel. Platform LEEDership at the U.S. Green Building Council. Harvard Business School Case 619-027, May 2018.
- B. Goldfarb, A. King and T. Simcoe. Heritability of Trust and Distrust Remains Unknown. Letter to *Proceedings of the National Academy of Sciences*, January 2018.
- S. Graham, P. Menell, C. Shapiro and T. Simcoe. Final Report of the Berkeley Center for Law & Technology Patent Damages Workshop. *Texas Intellectual Property Law Journal*, 25 (1): 115–142, 2017.
- A. Shampine and T. Simcoe. Economics of Patents and Standardization: Network Effects, Hold-up, Hold-out, Stacking. The Cambridge Handbook of Technical Standardization Law, Vol. 1. Cambridge University Press, 2017.
- T. Simcoe and C. Righi. Standards, Patents and Innovation. Handbook of Standards and Innovation. Edward Elgar, 2017.
- T. Simcoe. How to Make and Keep a Patent Pledge. Pages 285–290 in *Patent Pledges: Global Perspectives on Patent Law's Private Ordering Frontier*. Edward Elgar, 2017.

- T. Simcoe. Modularity and the Evolution of the Internet. Chapter 1 in *Economic Analysis of the Digital Economy*. University of Chicago Press, 2015.
- A. Agrawal, S.J. Graham, M. Rysman and T. Simcoe. Industry Standards, Intellectual Property and Innovation: Introduction to the Special Issue. *International Journal of Industrial Organization*, 36:1-3 (September 2014).
- T. Simcoe. Governing the Anti-commons: Institutional Design for Standard Setting Organizations. In *Innovation Policy and the Economy*, 14:99–128, 2014.
- T. Simcoe. Private and Public Approaches to Patent Holdup in Industry Standard-Setting. *Antitrust Bulletin*, 57(1): 59–88, Spring 2012.
- J. Farrell and T. Simcoe. Four Paths to Compatibility. pages 34–58 in the Oxford Handbook of the Digital Economy. Oxford University Press, 2012.
- T. Simcoe. Delay and *de jure* Standardization: Exploring the Slowdown in Internet Standards Development. Pages 260–295 in *Standards and Public Policy*. Cambridge University Press, 2007.
- T. Simcoe. Explaining the Increase in Intellectual Property Disclosure. Pages 260–295 in *Standards Edge: The Golden Mean*. Bolin Group, 2007.
- T. Simcoe. Open standards and Intellectual Property Rights. Pages 161–183 in *Open Innovation: Researching a New Paradigm*. Oxford University Press, 2006.
- D. Mowery and T. Simcoe. Public and Private Participation in the Development and Governance of the Internet. Pages 259–294 in *The Limits of Market Organization*. Russell Sage, 2005.
- D. Mowery and T. Simcoe. The Origins and Evolution of the Internet. Pages 229–265 in *Technological Innovation and Economic Performance*. Princeton University Press, 2002.
- M. Rysman and T. Simcoe. Measuring the Performance of Standard Setting Organizations. Pages 81–94 in *International Standardization as a Strategic Tool:* Commended Papers from the IEC Centenary Challenge 2006. International Electrotechnical Commission, 2006.

### TEACHING

### Boston University Questrom School of Business

Technology Strategy (MBA and Executive MBA)

Strategy and Innovation (Undergraduate)

Competition, Innovation and Strategy (MBA)

Data Analysis (Executive MBA)

Causal Inference in Management Research (PhD)

### University of Toronto, Rotman School of Management

Fundamentals of Competitive Strategy (MBA)

Entrepreneurship & Small Business Management (Undergraduate)

Models & Methods in Strategic Management (PhD)

### University of California, Berkeley

Economic Analysis for Business Decisions, Teaching Assistant (MBA)

### Consulting Expert Reports, Depositions and Testimony

United States of America *et al.* (client) v. Google LLC. Eastern District of Virginia. Case No. 1:23-cv-00108.

Apple (client) v. Qualcomm. Southern District of California. Case No. 3:17-CV-0108.

Microsoft (client) v. Motorola. Western District of Washington. Case No. C10-1823-JLR.

HTC Corporation (client) v. Ericsson. Eastern District of Texas. Case No.  $6{:}18{:}CV{-}00243{:}\mathrm{JRG}.$ 

ViiV Healthcare, (client) v. Gilead Sciences. District of Delaware. Case No. 1:18-CV-0224-VAC-CJB.

In Re: Qualcomm Securities Class Action Litigation (plaintiff client). Southern District of California. Case No. 3:17-CV-00121-JO-MSB

Fujitsu v. Tellabs (client). Northern District of Illinois, Eastern Division. Civil Action No. 09 CV 04530.

In the Matter of Certain Video Capable Electronic Devices, Including Computers, Streaming Devices, Televisions, Cameras, and Components and Modules Thereof (clients Amazon and Hewlett Packard). U.S. International Trade Commission Investigations Nos. 337-1379 and 337-1380.

In the Matter of Video-Capable Laptop, Desktop Computers, Handheld Computers, Tablets, Televisions, Projectors, and Components and Modules Thereof (clients Acer, AsusTek and HiSense). U.S. International Trade Commission Investigation No. 337-TA-448.

Apple (client) v. Motorola. Western District of Wisconsin. Case No. 11-CV-178.

Lenovo (client) and Motorola Mobility v. InterDigital Technology Corporation et al. District of Delaware. Case No. 19-1590-LPS

3G Licensing, Koninklijke KPN and Orange v. LG Electronics (client). District of Delaware. Case No. 17-cv-85-LPS.

Global Communications (client) v. Direct TV, et al. Northern District of Florida. Case No. 4:12-CV-00651-RH-CAS.

Zenith Electronics, Panasonic, U.S. Philips and The Trustees of Columbia University v. Craig Electronics (client). Southern District of Florida. Case No. 13-CV-80567.

#### Other Consulting

Wireless standards developer (client). Review of bylaws and procedures.

Boston Toronto Group (client). Executive education.

### Service University Governance

Strategy & Innovation Department Chair, 2024-present PhD Program Director (2015-2017, 2018-2022.)

### **Editorial and Advisory Positions**

American Economic Journal: Economic Policy, Board of Editors, 2021.

Management Science, Associate Editor in Innovation and Entrepreneurship, 2014-present.

Journal of Industrial Economics, Associate Editor, 2013-present.

Management Science, Associate Editor in Business Strategy, 2012-present.

NIST Visiting Expert Committee on US National Standards Strategy for Critical and Emerging Technologies, 2023-24.

National Academy of Sciences, Member of Committee on Intellectual Property Management Practices of Standard Setting Organizations, 2012-2013.

National Academy of Sciences, Member of Committee on the Review of the Small Business Innovation Research and Small Business Technology Transfer Programs at the National Science Foundation, 2019-2021.

Co-founder, Sloan Management Review Strategy Forum, 2018-2023.

Scientific Advisory Board, Global Biological Standards Institute, 2015-2018.

### Doctoral Advising & Committees

Xia Li, London Business School (Primary Advisor, 2023).

Jeremy Watson, University of Minnesota (Primary Advisor, 2018).

Cesare Righi, Pompeu Fabra University (Primary Advisor, 2017).

Jane Wu, UCLA (Committee Member, 2022).

Sophie Wang, UIBE Beijing (Committee Member, 2021).

Christian Catalini, MIT Sloan School (Committee Member, 2013)

Paul Seaborn, University of Denver (Primary Advisor, 2011)

Jay Horwitz, University of Bocconi (Committee Member, 2011)

Elena Kulchina, Duke University (Committee Member, 2012)

Justus Baron, Ecole des Mines / ParisTech (Committee Member, 2012)

AWARDS Innovators Network Foundation Intellectual Property Fellow, 2021-2023

Broderick Award for Excellence in Research, 2022. Dean's Research Scholar, 2015-2018, 2020-2022

Outstanding Contribution to Questrom Doctoral Programs, 2018

Questrom Full-time MBA Favorite Elective Professor, 2016

BU Questrom Doctoral Student's Association, Distinguished Mentor Award, 2016

John R. Russell Excellence in Teaching Award, Executive MBA, 2013

Management Science Meritorious Service Award (Reviewer), 2010

Rotman Excellence in Teaching Award, Commerce Program, 2008

Glueck Best Paper Award, Academy of Management BPS Division, 2008

Finalist, IEC Centenary Challenge, 2006

Finalist, Organization Science Dissertation Proposal Competition, 2003

Grants Intel Corporation Research Gift, 2017-2020

Bell Canada University Labs, 2007-2008

Connaught New Faculty Start-Up Award, 2004-2008

Berkeley Center for I.T. Research in the Interest of Society, 2003-2004

Intel Corporation Robert M. Noyce Memorial Fellowship, 2001-2002

Haas School of Business Ph.D. Fellowship, 1999-2000

Harvard College Fellowship, 1992-1995

## Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 476 of 616 PageID #: 26969

PRIOR WORK Ernst & Young LLP

EXPERIENCE Senior Consultant, Center for Business Innovation, Boston MA, 1998-1999

Consultant, E&Y Economics Consulting, Washington DC, 1996-1998

OTHER Professional Societies

American Economics Association, Academy of Management, Strategy Research Forum,

International Society for New Institutional Economics

Computer Code

STATA xtpqml: Robust inference in fixed-effects poisson regression STATA mtad: Multinomial test of agglomeration and dispersion

Personal Married: Stephanie Tobias Gates (August 2002)

Children: Katherine, Anne and Theodore

Interests: Michigan Sailing, North Haven Golf Club, Harvard Alumni Jazz Band

## 

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

APPENDIX B: MATERIALS RELIED UPON

## Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 478 of 616 PageID #: 26971

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

### **Legal Documents**

- "Arm's First (Corrected) Supplemental Objections and Responses to Qualcomm's First Set of Interrogatories (Nos. 1-11)," Arm Ltd., March 1, 2024
- "Arm's First Supplemental Objections and Responses to Qualcomm's First Set of Interrogatories (Nos. 1–3)," Arm Holdings, July 11, 2025
- "Arm's First Supplemental Response to Qualcomm's Amended Interrogatory No. 3," Arm Holdings, July 11, 2025
- "Arm's First Supplemental Objections and Responses to Qualcomm's Second Set of Interrogatories (Nos. 4-11)," Arm Holdings, July 11, 2025
- "Arm's First Supplemental Objections and Responses to Qualcomm's Third Set of Interrogatories (No. 12)," Arm Holdings, July 11, 2025
- "Arm's Responses & Objections to Qualcomm's First Set of Request for Admissions (Nos. 1-28)," Arm Holdings, July 11, 2025
- "Plaintiffs' Responses and Objections to Defendant's First Set of Interrogatories (Nos. 1–9)," Qualcomm, March 10, 2025
- "Plaintiffs' Supplemental Responses and Objections to Defendant's First Set of Interrogatories (Nos. 1–9)," Qualcomm, July 11, 2025
- "Plaintiffs' Third Supplemental Responses and Objections to Defendant's First Set of Interrogatories (Nos. 1–9)," Qualcomm, August 8, 2025
- "Plaintiffs' Supplemental Responses and Objections to Defendant's Second Set of Interrogatories (Nos. 10-13)," Qualcomm, July 11, 2025
- "Plaintiffs' Second Supplemental Responses and Objections to Defendant's Second Set of Interrogatories (Nos. 10-13)," Qualcomm, August 8, 2025
- "Plaintiffs' Responses and Objections to Defendant's Third Set of Interrogatories (Nos. 14-24)," Qualcomm, July 11, 2025
- "Plaintiffs' First Supplemental Responses and Objections to Defendant's Third Set of Interrogatories (Nos. 14-24)," Qualcomm, August 8, 2025
- "Plaintiffs' Responses and Objections to Defendant's First Set of Requests for Admission (Nos. 1-30)," Qualcomm, July 11, 2025

## Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 479 of 616 PageID #:

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Qualcomm Inc. v. Arm Holdings, plc., C.A. No. 24-490-MN, Dkt. Nos. 137; 137-1 (Ex. A) (June 3, 2025)

Arm Ltd. v. Qualcomm Inc., No. 1:22-cv-01146 (D. Del. filed August 31, 2022), Dkt. Nos. 571, 572

Arm Ltd. v. Qualcomm Inc., No. 1:22-cv-01146 (D. Del. filed August 31, 2022), Dkt. No. 1

Arm v. Qualcomm, No. 22-1146 (MN), Plaintiff Arm Ltd.'s Answer and Affirmative Defenses to Defendants Qualcomm Inc., Qualcomm Technologies, Inc., and Nuvia, Inc.'s Amended Counterclaim, D.I. 21, November 15, 2022

Arm v. Qualcomm, No. 22-1146 (MN), Pretrial Conference Transcript, November 20, 2024

Qualcomm Inc. v. Arm Holdings, plc., C.A. No. 24-490-MN, Dkt. No. 233, Arm's Opening Brief In Support of Its Partial Motion To Dismiss Qualcomm's Second Amended Complaint, June 17, 2025

Baumol, William J. and 18 other leading economics scholars, "Supreme Court Amicus Brief Regarding Morgan Stanley Capital Group Inc. v. Public Utility District No. 1 of Snohomish County, Washington," December 2007

Complaint for Patent Infringement, *Qualcomm Inc. v. Apple Inc.*, No. 3:17-cv-01375-JAH-AGS (S.D. Cal. filed July 6, 2017), https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/2017-07-06\_complaint.pdf

*eBay Inc. and Half.com v. MercExchange, L.L.C.*, Brief of Amici Curiae Qualcomm Inc. & Tessera, Inc. in Support of Respondent, 547 U.S. 388 (2006) (No. 05-130)

Expert Report of Dr. Michael C. Brogioli, September 5, 2025

Expert Report of Mr. Steven Richards, CPA, September 5, 2025

Expert Report of Eric A. Posner, August 8, 2025

Expert Report of Patrick F. Kennedy, August 8, 2025

Expert Report of Patrick F. Kennedy, February 27, 2024

Federal Trade Commission v. Qualcomm Incorporated, "Reply brief for appellant Qualcomm Incorporated (Redacted)," Qualcomm Incorporated, December 16, 2019, No. 19-16122, Dkt. Entry 228, United States Court of Appeals for the Ninth Circuit

Plaintiffs' Supplemental Responses and Objections to Defendant's Second Set of Interrogatories (Nos. 10–13)," Qualcomm, July 11, 2025

## Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 480 of 616 PageID #: 26973

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

I incorporate by reference all documents cited in ARM's and Qualcomm's discovery responses, and all materials relied upon by Prof. Posner and Dr. Kennedy.

### **Case Law**

Brown Shoe Co., Inc. v. United States, 370 U.S. 294 (1962)

Brunswick Corp. v. Pueblo Bowl-O-Mat, Inc., 429 U.S. 477, 488 (1977)

Cargill, Inc. v. Monfort of Colorado, Inc., 479 U.S. 104 (1986)

Federal Trade Commission v. Tempur Sealy International and Mattress Firm Group Inc., U.S. District Court, Southern District of Texas, Civil Action No. 4:24-cv-02508, Opinion and Order Denying Motion for Preliminary Injunction, Case 4:24-cv-02508, Dkt. Entry 511 (S.D. Tex. Jan. 31, 2025)

United States v. Aluminum Co. of Am., 148 F.2d 416, 430 (2d Cir. 1945)

United States v. Microsoft Corp., 253 F.3d 59 (2001)

### **Deposition Testimony and Associated Exhibits**

Arm v. Qualcomm, Trial Transcript, Vol 2.1, December 16, 2024

Arm v. Qualcomm, Trial Transcript, Vol 3.1, December 17, 2024

Arm v. Qualcomm, Trial Transcript, Vol. 4.1, December 18, 2024

Deposition of Akshay Bhatnagar, July 10, 2025

Deposition of Ami Badani, August 1, 2025

Deposition of Andrew Howard, July 1, 2025

Deposition of Ann Chaplin, July 11, 2025

Deposition of Anupa George, July 30, 2025

Deposition of Aparajita Bhattacharya, July 7, 2025

Deposition of Christine Tran, July 10, 2025

Deposition of Christopher Patrick, July 2, 2025

Deposition of Cristiano Amon, July 3, 2025

Deposition of Durga Malladi, July 10, 2025

## Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 481 of 616 PageID #: 26974

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Deposition of Ehab Youssef, June 26, 2025

Deposition of Gerard Williams, June 25, 2025

Deposition of Gerard Williams, November 3, 2023

Deposition of James Jeon, July 11, 2025

Deposition of James Thompson, November 28, 2023

Deposition of Jannik Nelson, July 10, 2025

Deposition of Jean-Francois (Jeff) Vidon, July 1, 2025

Deposition of Jeff Golden, July 3, 2025

Deposition of Jeffrey M. Fonseca, July 9, 2025

Deposition of Jignesh Trivedi, July 9, 2025

Deposition of John Horley, July 8, 2025

Deposition of Jonathan Weiser, July 11, 2025

Deposition of Karl M. Whealton, June 18, 2025

Deposition of Karthik Shivashankar, June 20, 2025

Deposition of Kenneth Siegel, July 4, 2025

Deposition of Kurt Wolf, June 25, 2025

Deposition of Larissa Cochron, July 11, 2025

Deposition of Laura Sand, July 8, 2025

Deposition of Lynn Couillard, July 3, 2025

Deposition of Manju Varma, June 24, 2025

Deposition of Mark Dragicevich, June 27, 2025

Deposition of Martin Weidmann, June 20, 2025

Deposition of Michael Williams, June 27, 2025

Deposition of Mohamed Awad, July 29, 2025

## Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 482 of 616 PageID #: 26975

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Deposition of Paul Kranhold, July 17, 2025

Deposition of Paul Williamson, July 2, 2025

Deposition of Pavankumar (Pavan) Mulabagal, July 1, 2025

Deposition of Peter Greenhalgh, July 4, 2025

Deposition of Philip Hughes, June 17, 2025

Deposition of Rene Haas, July 7, 2025

Deposition of Richard Grisenthwaite, July 2, 2025

Deposition of Richard Meacham, June 27, 2025

Deposition of Selena LaCroix, August 1, 2025

Deposition of Simon Segars, November 16, 2023

Deposition of Spencer Collins, June 30, 2025

Deposition of Sudeep Holla, June 17, 2025

Deposition of Tim Herbert, October 25, 2023

Deposition of Vivek Agrawal, July 11, 2025

Deposition of Will Abbey, June 26, 2025

Deposition of Will Abbey, October 27, 2023

Deposition of Ziad Asghar, July 7, 2025

### **Conversations**

Conversation with Dr. Michael C. Brogioli, September 2, 2025

Conversation with Mohamed Awad, August 29, 2025

Conversation with Paul Williamson, September 2, 2025

### **SEC Filings**

Arm Holdings plc, Form F-1, August 21, 2023, https://www.sec.gov/Archives/edgar/data/1973239/000119312523216983/d393891df1.htm

## Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 483 of 616 PageID #: 26976

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Arm Holdings plc, Amendment No. 2 to Form F-1, September 5, 2023, https://www.sec.gov/Archives/edgar/data/1973239/000119312523228059/d393891df1a.htm

Arm Holdings plc, Form 20-F, for the fiscal year ended March 31, 2024, https://investors.arm.com/static-files/dcdd6629-24bb-40ef-ba55-8aca1362205a

Arm Holdings plc, Form 20-F, for the fiscal year ended March 31, 2025, https://investors.arm.com/static-files/9be77c9d-75ee-4639-bfe4-17efd23c56b5

Intel Corporation, 2021 Form 10-K, for the fiscal year ended December 25, 2021, https://www.intc.com/filings-reports/all-sec-filings/content/0000050863-22-000007/0000050863-22-000007.pdf

Intel Corporation, 2024 Form 10-K, for the fiscal year ended December 28, 2024, https://www.intc.com/filings-reports/all-sec-filings/content/0000050863-25-000009/000050863-25-000009.pdf

Qualcomm Incorporated, Form 10-K, for the fiscal year ended September 29, 2024, https://d18rn0p25nwr6d.cloudfront.net/CIK-0000804328/fd08c4f6-61ba-4a6a-a339-0e3b522ed739.pdf

Qualcomm Incorporated, Form 10-K, for fiscal years 2019 – 2024, https://investor.qualcomm.com/financial-info-sec-filings/sec-filings/default.aspx

Qualcomm Incorporated, Form 10-Q, for the quarterly period ended December 26, 2021, https://d18rn0p25nwr6d.cloudfront.net/CIK-0000804328/c91b841c-1f3f-4762-9c0d-c379f1554455.pdf

Qualcomm Incorporated, Form 10-Q, for the quarterly period ended December 29, 2024, https://d18rn0p25nwr6d.cloudfront.net/CIK-0000804328/1b687286-85e9-44e6-a579-d19d089eacfb.pdf

Qualcomm Incorporated, Form 10-Q, for the quarterly periods 2019 – 2024, https://investor.qualcomm.com/financial-info-sec-filings/sec-filings/default.aspx

### **Bates Numbered Documents**

ARM\_00000003

ARM\_00000016

ARM\_00000017

ARM\_00000382

ARM 00000510

## Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 484 of 616 PageID #: 26977

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

ARM_00002955
ARM_00004029
ARM_00026351
ARM_00032601
ARM_00032602
ARM_00045266
ARM_00055357
ARM_00057511
ARM_00057560

ARM\_00076604

ARM\_00081203

ARM\_00081461

ARM\_00081462

ARM\_00081753

ARM\_00086285

ARM\_00087465

ARM\_00088600

ARM\_00092788

ARM\_00095947

ARM\_00097388

ARM\_00103918

ARM\_00104733

ARM\_00110511

## Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 485 of 616 PageID #: 26978

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

AKWI 001131/9	ARM	00113179
---------------	-----	----------

ARM\_00115827

ARM\_00117493

ARM\_00118635

ARM\_00119602

ARM\_00119603

ARM\_01215409

ARM\_01215878

ARM\_01215886

ARM\_01230861

ARM\_01230977

ARM\_01230978

ARM\_01238895

ARM\_01239056

ARM\_01246942

ARM\_01249629

ARM\_01259705

ARM\_01282304

ARM\_01293447

ARM\_01294236

ARM\_01305915

ARM\_01311208

ARM\_01314793

ARM\_01426938

## Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 486 of 616 PageID #: 26979

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

ARM	014277	19
$\Delta I \times I \times I$	U1 <del>1</del> 4//	1/

ARM\_01427776

ARM\_01427796

ARM\_01428339

ARMQC\_00000640

ARMQC\_02600713

ARMQC\_02601118

ARMQC\_02725050

ARMQC\_02726982

ARMQC\_02727610

ARMQC\_02729412

ARMQC\_02731630

ARMQC\_02739661

ARMQC\_02740205

ARMQC\_02740386

ARMQC\_02748499

ARMQC\_02749177

ARMQC\_02762992

ARMQC\_02770485

ARMQC\_02770649

ARMQC\_02770676

ARMQC\_02771127

ARMQC\_02771946

ARMQC\_02772366

## Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 487 of 616 PageID #: 26980

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

79314

ARMQC\_02779364

ARMQC\_02779391

ARMQC\_02779433

ARMQC\_02779483

ARMQC\_02783619

ARMQC\_02785287

QCARM\_0020011

QCARM\_0020012

QCARM\_0027980

QCARM\_0222737

QCARM\_0275743

QCARM\_0332490

QCARM\_0337839

QCARM\_0338297

QCARM\_0338573

QCARM\_0338883

QCARM\_0343120

QCARM\_0343954

QCARM\_0353229

QCARM\_0550516

QCARM\_0550518

QCARM\_0589823

QCARM\_0591733

## Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 488 of 616 PageID #: 26981

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

OCARM	3460234
OCIMA	ンエひひをシエ

QCARM\_3474751

QCARM\_3839896

QCARM\_3972031

QCARM\_7401071

QCARM\_7484882

QCVARM\_0449658

QCVARM\_0451587

QCVARM\_0455391

QCVARM\_0463558

QCVARM\_0463837

QCVARM\_0464076

QCVARM\_0464648

QCVARM\_0465090

QCVARM\_0526828

QCVARM\_0527544

QCVARM\_0528956

QCVARM\_0532239

QCVARM\_0534597

QCVARM\_0537065

QCVARM\_0538870

QCVARM\_0538873

QCVARM\_0541454

QCVARM\_0573677

## Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 489 of 616 PageID #: 26982

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

OCVARM	0600104
	OUUUIUT

QCVARM\_0608391

QCVARM\_0621447

QCVARM\_0621448

QCVARM\_0847188

QCVARM\_0851120

QCVARM\_0851449

QCVARM\_0855438

QCVARM\_0856270

QCVARM\_0856888

QCVARM\_0857113

QCVARM\_0857152

QCVARM\_0863181

QCVARM\_0863573

QCVARM\_0863641

QCVARM\_0864713

QCVARM\_0864833

QCVARM\_0864924

QCVARM\_0865022

QCVARM\_0865236

QCVARM\_0865274

QCVARM\_0865311

QCVARM\_1014030

QCVARM\_1024852

## Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 490 of 616 PageID #: 26983

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

QCVARM\_1031097

QCVARM\_1066820

QCVARM\_1069058

QCVARM\_1069082

QCVARM\_1069106

QCVARM\_1069760

QCVARM\_1120481

QCVARM 1120999

QCVARM\_1121176

QCVARM\_112154

QCVARM\_1121674

QCVARM\_1151565

QCVARM\_1151573

QCVARM\_1151615

### **Articles and Books**

"AI Flywheel Gathering Momentum - Initiate Buy," UBS Global Research, November 24, 2024

"Qualcomm Incorporated 2009 and Qualcomm Incorporated 2011 Update," Harvard Business School Teaching Notes, May 25, 2011

Aberra, Adam and Matthieu Chemin, "Does legal representation increase investment? Evidence from a field experiment in Kenya," 2021, Journal of Development Economics, Vol. 150

Armstrong, Mark, "Competition in Two-Sided Markets," 2006, RAND Journal of Economics, Vol. 37, No. 3

Babcock, Linda, George Loewenstein, S. Issacharoff, and Colin Camerer, "Biased Judgements of Fairness in Bargaining," American Economic Review, 1995, Vol. 85, No. 5

Beck, Marissa and Fiona Scott Morton, "Evaluating the Evidence on Vertical Mergers," Review of Industrial Organization, 2021, Vol. 59

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 491 of 616 PageID #:

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Benjamin E. Hermalin et al., "Contract Law," in Handbook of Law & Economics, 2007, Vol. 3, No. 68 (ed. A. Mitchell Polinsky & Steven Shavell)

Blair, Roger D., Christine S. Wilson, D. Daniel Sokol, Keith Klovers and Jeremy A. Sandford, "Analyzing Vertical Mergers: Accounting for the Unilateral Effects Tradeoff and Thinking Holistically About Efficiencies," George Mason Law Review, 2020, Vol. 27, No. 3

Bloom, Nick, Stephen Bond, and John Van Reenen, "Uncertainty and Investment Dynamics," The Review of Economic Studies, 2007, Vol. 74, No. 2

Brandenburger, Adam M. and Barry J. Nalebuff, "The Rules of Co-opetition," Harvard Business Review, 2021

CGS International, "Arm Holdings pcl - Initiate at Outperform and \$160 PT; Content Story in Early Innings," US Equity Research, Sept 12, 2024

De Stefano, Martino and Michael Salinger, "The Complicated Simple Economics of Vertical Mergers," The Journal of Law and Economics, 2025, Vol. 68, No. 1

Donna, Javier D., Pedro Pereira, Yun Pu, Andre Trindade, and Renan C. Yoshida, "Direct sales and bargaining," RAND Journal of Economics, 2024, Vol. 55, No. 4

Federico, Giulio, Fiona Scott Morton, and Carl Shapiro, "Antitrust and Innovation: Welcoming and Protecting Disruption," Innovation Policy and the Economy, 2020, Vol. 20, pp. 125-190

Gans, Joshua "The Disruption Dilemma," MIT Press, 2016

Gilbert, Richard J. and Carl Shapiro, "An Economic Analysis of Unilateral Refusals to License Intellectual Property," Proceedings of the National Academy of Sciences U.S.A., 1996, Vol. 3

Kwon, Yona, Dahee Kang, Sinji Kim, and Seungho Choi, "Coopetition in the SoC Industry: The Case of Qualcomm Incorporated," Journal of Open Innovation: Technology, Market, and Complexity, 2020, Vol. 6, No. 1

Lemley, Mark A. and Carl Shapiro, "Probabilistic Patents," Journal of Economic Perspectives, 2005, Vol. 19, No. 2

Lianos, Ioannis and Pierre Regibeau, "'Vexatious'/'Sham' Litigation: When Can It Arise and How Can It Be Reduced?," The Antitrust Bulletin, 2017, Vol. 62, No. 4

Lu, Shihua, Serge Moresi, and Steven C. Salop, "A Note on Vertical Mergers with an Upstream Monopolist: Foreclosure and Welfare Effects," 2007, Working Paper

Muthoo, Abhinay, "A Non-Technical Introduction to Bargaining Theory," World Economics, April-June 2020, Vol. 1, No. 2

## Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 492 of 616 PageID #:

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Posner, Richard A., "The Law and Economics of Contract Interpretation," 2004, 83 Texas Law Review 1581

Priest, George L. & Benjamin Klein, "The Selection of Disputes for Litigation," Journal of Legal Studies, 1984, Vol. 13

Schumpeter, Joseph, "Capitalism, Socialism, and Democracy," Harper & Brothers Publishers, 1942

Seitz, Michael and Martin Watzinger, "Contract enforcement and R&D investment," Research Policy, 2017, Volume 46, Issue 1

Shapiro, Carl & Keith Waehrer, "Using and Misusing Microeconomics: Federal Trade Commission v. Qualcomm," Chapter 15, Antitrust Economics at a Time of Upheaval: Recent Competition Policy Cases on Two Continents (ed. John E. Kwoka, Jr., Tommaso M. Valletti & Lawrence J. White), 2023, Competition Policy International

Shapiro, Carl, "Competition and Innovation Did Arrow Hit the Bull's Eye?" in The Rate and Direction of Inventive Activity Revisited (ed. Josh Lerner and Scott Stern), 2012, University of Chicago Press

Shapiro, Carl, "Premiums for high quality products as returns to reputations," The Quarterly Journal of Economics, 1983, Vol. 98, No. 4

Shapiro, Carl, "Vertical Mergers and Input Foreclosure Lessons from the AT&T/Time Warner Case," Review of Industrial Organization, 2021, Vol. 59, pp. 303–341

Spulber, Daniel F., "How Do Competitive Pressures Affect Incentives to Innovate When There is a Market for Inventions?" Journal of Political Economy, 2013, Vol. 121, No. 6, pp. 1007-1054

Tirole, Jean, "Competition and the Industrial Challenge for the Digital Age," Annual Review of Economics, 2020, Vol. 156

Yang, Chenyu, "Vertical Structure and Innovation: A Study of the SoC and Smartphone Industries," The RAND Journal of Economics, 2022, Vol. 51, No. 3, pp. 739–785

### **Websites and Other Public Sources**

"2023 Patent Litigation Report," Bloomberg Law, https://pro.bloomberglaw.com/insights/intellectual-property/2023-patent-litigation-report/

"4 Reasons Qualcomm's Data Center Business Failed," The Motley Fool, December 21, 2018, https://www.nasdaq.com/articles/4-reasons-qualcomms-data-center-business-failed-2018-12-21

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 493 of 616 PageID #:

- "4Q24 Global Top 10 Foundries Set New Revenue Record, TSMC Leads in Advanced Process Nodes," TechPowerUp, March 10, 2025, https://www.techpowerup.com/333868/4q24-global-top-10-foundries-set-new-revenue-record-tsmc-leads-in-advanced-process-nodes
- "About RISC-V," RISC-V International, https://riscv.org/about/, accessed August 15, 2025
- "Accelerating the RISC-V Software Ecosystem," RISE, The Linux Foundation Projects, https://riseproject.dev/, accessed August 26, 2025
- "AI Accelerator Chips Overview and Comparison," HardwareBee, https://hardwarebee.com/ai-accelerator-chips-overview-and-comparison/, accessed on August 22, 2025
- "Apple announces Mac transition to Apple silicon," Apple Newsroom, June 22, 2020, https://www.apple.com/newsroom/2020/06/apple-announces-mac-transition-to-apple-silicon/
- "Apple unleashes M1," Apple Newsroom, November 10, 2020, https://www.apple.com/newsroom/2020/11/apple-unleashes-m1/
- "Arm Approved Design Partners," Arm, https://www.arm.com/partners/arm-approved-program/design-partners, accessed September 4, 2025
- "Arm CEO on Intel, Chips, AI, Listing in US," Bloomberg Technology, YouTube, October 22, 2024, www.youtube.com/watch?v=6FnBz8rxWUY
- "Arm Compute Subsystems (CSS) for Client," Arm, https://www.arm.com/products/compute-subsystems-for-client, accessed September 4, 2025
- "Arm CoreLink GIC-700 Generic Interrupt Controller Technical Reference Manual," Arm Developer, https://developer.arm.com/documentation/101516/latest/, accessed September 4, 2025
- "Arm Cortex-A Processor Comparison Table," Arm Developer, https://developer.arm.com/documentation/102826/latest/, accessed September 4, 2025
- "Arm Cortex-M Processor Comparison Table," Arm Developer, https://developer.arm.com/documentation/102787/latest/, accessed September 4, 2025
- "Arm Cortex-R Processor Comparison Table," Arm Developer, https://developer.arm.com/documentation/102788/latest/, accessed September 4, 2025
- "Arm CPU Architecture: A Foundation for Computing Everywhere," Arm, https://www.arm.com/architecture/cpu, accessed September 4, 2025
- "Arm Files Lawsuit Against Qualcomm and Nuvia for Breach of License Agreements and Trademark Infringement," Arm, August 31, 2022, https://newsroom.arm.com/news/arm-files-lawsuit-against-qualcomm-and-nuvia-for-breach-of-license-agreements-and-trademark-infringement

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 494 of 616 PageID #: 26987

- "Arm Flexible Access," Arm, https://www.arm.com/products/flexible-access
- "Arm Holdings plc Q1 2026 Earnings Call," July 30, 2025, https://investors.arm.com/static-files/57a99953-427a-4cfb-ade8-634d3564c008
- "Arm Holdings plc Q3 2025 Earnings Call," February 5, 2025, https://investors.arm.com/static-files/f1190d81-408d-4276-a30c-b27c1ce5a30a
- "Arm Holdings plc Q4 2025 Earnings Call," May 7, 2025, https://investors.arm.com/static-files/181d5019-29bd-4ba5-af29-45888e25c637
- "Arm Holdings plc Q3 FYE24 Results Presentation," Arm Holdings, February 7, 2024, https://investors.arm.com/static-files/c383780b-44f8-42c0-a125-4f6db0b8eb06
- "Arm Holdings plc Q4 FYE24 Results Presentation," Arm Holdings, May 8, 2024, https://investors.arm.com/static-files/4f2fc46b-34a5-4bc5-94af-f13fbc348f0e
- "Arm Holdings Q2 FYE25 Investor Presentation," Arm Holdings, November 6, 2024, https://investors.arm.com/static-files/623fece0-c947-4d'93-94eb-e08e8dfad61b
- "Arm Holdings plc Q4 FYE25 Investor Presentation," Arm Holdings, May 7, 2025, https://investors.arm.com/static-files/6bb3def3-ddce-4588-bf81-b5a718973274
- "Arm Holdings plc, Q1 FYE26 Investor Presentation," Arm Holdings, July 30, 2025, https://investors.arm.com/static-files/dae25601-3e5a-4d40-b9f5-e0149989e553
- "Arm Total Access," Arm, https://www.arm.com/products/licensing/arm-total-access, accessed August 30, 202
- "At Qualcomm Trial, Apple COO Said \$7.50 Per-iPhone Fee Cost Company \$1 Billion a Year," Bloomberg, January 14, 2019, https://fortune.com/2019/01/14/qualcomm-trial-apple-7-50-iphone-fee-billion/
- "Automated Driving | Snapdragon Ride ADAS Tech for Smart Cars," Qualcomm, https://www.qualcomm.com/products/automotive/automated-driving, accessed September 4, 2025
- "AWS and Arm," Arm, https://www.arm.com/markets/computing-infrastructure/cloud-computing/aws#1, accessed August 29, 2025
- "AWS re: Invent 2024 Monday Night Live with Peter DeSantis," AWS, YouTube.com, December 3, 2024, https://www.youtube.com/watch?v=vx36tyJ47ps&t=1041s
- "BoM Analysis: Samsung Galaxy S23 Ultra Costs \$469 to Make," Counterpoint, May 31, 2023, https://www.counterpointresearch.com/insight/bom-analysis-samsung-galaxy-s23-ultra

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 495 of 616 PageID #: 26988

- "CMN-600 Coherent Mesh: Scalable Network for Smart Systems," Arm, https://www.arm.com/products/silicon-ip-system/corelink-interconnect/cmn-600, accessed September 4, 2025
- "CoreSight ELA-600," Arm Developer, https://developer.arm.com/Processors/CoreSight%20ELA-600, accessed September 4, 2025
- "CPU Cortex-A78", Arm https://www.arm.com/products/silicon-ip-cpu/cortex-a/cortex-a78, accessed August 29, 2025
- "Exynos Mobile Processor," Samsung Semiconductor Global, https://semiconductor.samsung.com/processor/mobile-processor/, accessed September 4, 2025
- "Fastest Path to Production Silicon with World-Leading Performance, on Leading-Edge Technology," Arm, https://www.arm.com/products/neoverse-compute-subsystems, accessed September 4, 2025
- "FYE26 Q1 (30-Jun-25) Historical Quarters Datasheet.xlsx," Arm Holdings, July 30, 2025, https://investors.arm.com/financials/quarterly-annual-results
- "Gartner Says Worldwide Semiconductor Revenue Grew 21% in 2024," Gartner, April 10, 2025, https://www.gartner.com/en/newsroom/press-releases/2025-04-10-gartner-says-worldwide-semiconductor-revenue-grew-21-percent-in-2024
- "Glossary," Lenovo, https://www.lenovo.com/us/en/glossary/cpu-core/, accessed September 4, 2025
- "Glossary," Lenovo, https://www.lenovo.com/us/en/glossary/what-is-a-chipset, accessed September 3, 2025
- "Governing Board," RISE, The Linux Foundation Projects, https://riseproject.dev/leadership/, accessed August 26, 2025
- "Here's How Much Apple Was Paying Qualcomm in Royalties," The Motley Fool, January 14, 2019, https://www.nasdaq.com/articles/heres-how-much-apple-was-paying-qualcomm-royalties-2019-01-14
- "How NVIDIA Shipped One Billion RISC-V Cores In 2024," RISC-V International, February 25, 2025, https://riscv.org/blog/2025/02/how-nvidia-shipped-one-billion-risc-v-cores-in-2024/
- "Intel Antitrust Rulings," https://www.amd.com/en/legal/notices/antitrust-ruling.html, accessed September 4, 2025
- "Invention and Intellectual Property [-] Protecting the value of invention," Qualcomm, https://www.qualcomm.com/company/corporate-responsibility/acting-responsibly/public-policy/our-positions/invention-and-intellectual-property, accessed August 28, 2025

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 496 of 616 PageID #:

- "Is Snapdragon an ARM Processor? Understanding the Core Technology Behind Qualcomm's Mobile Chipsets," Indian Institute of Embedded Systems, https://iies.in/blog/is-snapdragon-an-arm-processor-understanding-the-core-technology-behind-qualcomms-mobile-chipsets
- "Keynote: Accelerating Innovation with RISC-V: Past, Present and Future Manju Varma," RISC-V International, YouTube, December 29, 2022, at 1:01, https://www.youtube.com/watch?v=t6\_9pbgg1LI&ab\_channel=RISC-Vinternational
- "Keynote: Unlocking Innovation with RISC-V and Qualcomm Ziad Asghar," RISC-V International, YouTube, November 29, 2023, @ 4:37, https://www.youtube.com/watch?v=9h9LwkPnrUw&ab\_channel=RISC-Vinternational
- "Market Capitalization of Arm Holdings," Companies Market Cap, https://companiesmarketcap.com/arm-holdings/marketcap/, accessed August 29, 2025
- "Market Capitalization of Qualcomm," Companies Market Cap, https://companiesmarketcap.com/qualcomm/marketcap/, accessed August 29, 2025
- "Market Capitalization of Samsung," Companies Market Cap, https://companiesmarketcap.com/samsung/marketcap/, accessed August 29, 2025
- "Missouri and New Jersey Should Repeal Their Prohibitions on Direct-to-Consumer Auto Sales by Manufacturers," Federal Trade Commission, Press Release May 16, 2014, https://www.ftc.gov/news-events/news/press-releases/2014/05/ftc-staff-missouri-new-jersey-should-repeal-their-prohibitions-direct-consumer-auto-sales
- "Neoverse N1 | CPU for Next-Gen Cloud Infrastructure," Arm, https://www.arm.com/products/silicon-ip-cpu/neoverse/neoverse-n1, accessed September 4, 2025
- "Next-Gen flagship Snapdragon chip 'Pakala' & reference device slip in new Qualcomm video," March 21, 2024, https://www.gizmochina.com/2024/03/21/next-gen-snapdragon-pakala-reference-device/
- "NUVIA Raises \$53 Million to Reimagine Silicon Design for the Data Center," Globe News Wire, November 15, 2019, https://www.globenewswire.com/news-release/2019/11/15/1948072/0/en/NUVIA-Raises-53-Million-to-Reimagine-Silicon-Design-for-the-Data-Center.htm
- "Our Businesses," Qualcomm, https://www.qualcomm.com/our-businesses, August 5, 2025
- "PPA analysis overview," Arm Developer, https://developer.arm.com/documentation/102738/0100/Power--performance--and-area-analysis, accessed September 4, 2025

## Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 497 of 616 PageID #: 26990

- "Q1 2025 Qualcomm Inc. Earnings Call," Qualcomm, February 5, 2025, https://s204.q4cdn.com/645488518/files/doc\_events/2025/Feb/05/QCOM\_Q1FY25EC\_Transcript\_2-5-24.pdf
- "Q2 2025 Qualcomm Inc. Earnings Call," Qualcomm, April 30, 2025, https://s204.q4cdn.com/645488518/files/doc\_events/2025/Apr/30/QCOM\_Q2FY25EC\_Transcript\_5-1-25.pdf
- "Q3 2025 Qualcomm Inc. Earnings Call," Qualcomm, July 30, 2025, https://s204.q4cdn.com/645488518/files/doc\_events/2025/Jul/30/Q3FY25-Earnings-Call-Transcript\_7-30-25\_Final.pdf
- "Q4 2024 Qualcomm Inc. Earnings Call," Qualcomm, November 6, 2024, https://s204.q4cdn.com/645488518/files/doc\_events/2024/Nov/06/QCOM\_Q4FY24EC\_Transcript\_11-7-24.pdf
- "Qualcomm 5G NR Royalty Terms Statement," November 19, 2017, https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/qualcomm-5g-nr-royalty-terms-statement.pdf
- "Qualcomm Announces Third Quarter Fiscal 2025 Results," Qualcomm, July 30, 2025, https://s204.q4cdn.com/645488518/files/doc\_financials/2025/q3/FY2025-3rd-Quarter-Earnings-Release.pdf
- "Qualcomm Cellular IoT Licensing Program," Qualcomm, https://www.qualcomm.com/licensing/cellular-iot-licensing-program, accessed September 4, 2025
- "Qualcomm Completes Acquisition of NUVIA," Qualcomm Press Release, March 15, 2021, https://www.qualcomm.com/news/releases/2021/03/qualcomm-completes-acquisition-nuvia
- "Qualcomm Dominates Premium Android Smartphone Chip Market in Q1 2022," Cellit, May 19, 2022, https://cellit.in/qualcomm-dominates-premium-android-smartphone-chip-market-in-q1-2022/
- "Qualcomm Files GSM Patent Infringement Suit Against Nokia," Qualcomm Press Release, November 6, 2005, https://www.qualcomm.com/news/releases/2005/11/qualcomm-files-gsm-patent-infringement-suit-against-nokia
- "Qualcomm Files Lawsuit Against Motorola," Qualcomm, Mar 5, 1997 https://www.qualcomm.com/news/releases/1997/03/qualcomm-files-lawsuit-against-motorola
- "Qualcomm Implements New Corporate Structure," Qualcomm Press Release, October 1, 2012, https://www.qualcomm.com/news/releases/2012/10/qualcomm-implements-new-corporate-structure

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 498 of 616 PageID #:

- "Qualcomm Inc. Investor Day," Qualcomm, Cristiano Amon, November 16, 2021, https://d1io3yog0oux5.cloudfront.net/\_9145a2f999cf4f4b2b0c08721e637935/qualcomm/db/703/7061/file/QCOM-USQ Transcript 2021-11-16 Investor%20Day%20(1).pdf
- "Qualcomm Inc., Investor Day," Qualcomm, Cristiano Amon, November 19, 2024, https://s204.q4cdn.com/645488518/files/doc\_events/2024/Nov/19/Qualcomm-Investor-Day-2024\_Cristiano\_StrategicFramework\_11-19-24.pdf
- "Qualcomm Incorporated 2009 and Qualcomm Incorporated 2011 Update," Harvard Business School Teaching Notes, May 25, 2011, https://hbsp.harvard.edu/product/711463-PDF-ENG
- "Qualcomm Investor Day 2024: IoT and Automotive Diversification Update," Qualcomm, November 19, 2024, https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/images/company/company/events/investor-day-2024/QCOM-Investor-Day-2024-transcript.pdf
- "Qualcomm Oryon CPU," Qualcomm, https://www.qualcomm.com/products/technology/processors/oryon, accessed August 20, 202
- "Qualcomm Sets New Growth Targets, Showcasing Company's Opportunity as On-Device AI Accelerates Demand for its Technologies," Qualcomm Inc., Press Release, November 19, 2024 https://investor.qualcomm.com/news-events/press-releases/news-details/2024/Qualcomm-Sets-New-Growth-Targets-Showcasing-Companys-Opportunity-as-On-Device-AI-Accelerates-Demand-for-its-Technologies/default.aspx
- "Qualcomm to Acquire Alphawave Semi," Qualcomm, June 9, 2025, https://www.qualcomm.com/news/releases/2025/06/qualcomm-to-acquire-alphawave-semi
- "Qualcomm to Bring RISC-V Based Wearable Platform to Wear OS by Google," Qualcomm, October 17, 2023, https://www.qualcomm.com/news/releases/2023/10/qualcomm-to-bring-risc-v-based-wearable-platform-to--wear-os-by-
- "Quintauris: Accelerating RISC-V Innovation for next-gen Hardware," November 4, 2024, https://www.quintauris.com/quintauris-accelerating-risc-v-innovation-for-next-gen-hardware
- "RISC-V International Governance," RISC-V, https://riscv.org/about/board/, accessed August 13, 2025
- "Samsung Apologizes for Falling Behind in AI Chips Race," Wall Street Journal, October 8, 2024, https://www.wsj.com/tech/samsungs-chip-technologies-fall-behind-in-early-innings-of-aigame-67f0f9af
- "Samsung Electronics Co. Ltd.," Wall Street Journal, https://www.wsj.com/market-data/quotes/kr/xkrx/005930, accessed August 26, 2025
- "SCO Sends Warning Letters To Linux Users," InformationWeek, December 22, 2003, https://www.informationweek.com/it-leadership/sco-sends-warning-letters-to-linux-users

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 499 of 616 PageID #:

- "Silicon Design Reimagined," Nuvia, Inc., January 15, 2021, https://web.archive.org/web/20210115193713/https://nuviainc.com/
- "Snapdragon Summit," SixFiveMedia, https://www.sixfivemedia.com/our-events/snapdragon-summit, accessed September 4, 2025
- "Supreme Court Amicus Brief Regarding Morgan Stanley Capital Group Inc. v. Public Utility District No. 1 of Snohomish County, Washington," December 2007, https://appext.hks.harvard.edu/publications/getFile.aspx?Id=451
- "The 5 Best Features of the Meta Quest 3," Qualcomm, January 12, 2024, https://www.qualcomm.com/snapdragon/news/the-5-best-features-of-the-meta-quest-3
- "The Largest Companies by Market Cap in August 2025," The Motley Fool, August 4, 2025 https://www.fool.com/research/largest-companies-by-market-cap/
- "The Value of Making Concessions In Negotiation," Red Bear, November 12, 2024, https://www.redbearnegotiation.com/blog/making-concessions-in-negotiation
- "Too Good to Lose: America's Stake in Intel," Center for Strategic and International Studies, November 12, 2024, https://www.csis.org/analysis/too-good-lose-americas-stake-intel
- "Top 10 Semiconductor Foundries in the World," Cytech Systems, March 13, 2024 https://www.cytechsystems.com/news/top-10-semiconductor-foundries
- "Trial Sheds Light on Q'comm Patent Holdings, Royalty Rates," EETimes, January 21, 2019, https://www.eetimes.com/trial-sheds-light-on-qcomm-patent-holdings-royalty-rates
- "Understanding Android," Android, https://www.android.com/everyone/facts/, accessed August 29, 2025
- "Virtual Reality: Transforming the way we experience reality," Qualcomm, https://www.qualcomm.com/products/mobile/snapdragon/xr-vr-ar/virtual-reality-vr
- "What are IP Cores in Semiconductor Design: Types & Advantages," Techovedas, April 21, 2024, https://techovedas.com/what-are-ip-cores-in-semiconductor-design-types-advantages/
- "What is Windows on Arm (WoA)?" Arm, https://www.arm.com/glossary/windows-on-arm, accessed September 4, 2025
- "Why RISC-V is Inevitable, Calista Redmond, RISC-V International," RISC-V International, April 6, 2023, at 8:33, https://www.youtube.com/watch?v=ktjSvlelKPk&ab\_channel=RISC-VInternational
- "XR/VR/AR Reimagining reality as we know it," Qualcomm, https://www.qualcomm.com/products/mobile/snapdragon/xr-vr-ar, accessed September 4, 2025

## Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 500 of 616 PageID #: 26993

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

"Your Negotiation Challenges," Karrass, June 17, 2025, https://www.karrass.com/blog/your-negotiation-challenges

Abner Li, "Report: Arm cancels Qualcomm's instruction set, IP license for chip design," 9to5Google, October 22, 2024, https://9to5google.com/2024/10/22/report-qualcomm-arm-chip-design/

Aditya Bedi, "The foundation of Total Compute: First Armv9 Cortex CPUs," Arm Community, May 25, 2021 https://community.arm.com/arm-community-blogs/b/architectures-and-processors-blog/posts/first-armv9-cpu-cores

Akash Palkhiwala, "Qualcomm Investor Day 2024 Financial Update Presentation," Qualcomm, November 19, 2024, https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/images/company/company/events/investor-day-2024/Qualcomm-Investor-Day-2024\_Akash\_FinancialUpdate.pdf

Anand Lal Shimpi, "The ARM Diaries, Part 1: How ARM's Business Model Works," AnandTech, June 28, 2013,

https://web.archive.org/web/20130701165406/http://www.anandtech.com/show/7112/the-arm-diaries-part-1-how-arms-business-model-works/2

Andy Patrizio, "Qualcomm makes it official; no more data center chip," Network World, December 12, 2018, https://www.networkworld.com/article/966778/qualcomm-makes-it-official-no-more-data-center-chip.html

Anton Shilov, "Arm-Based CPUs Could Double Notebook PC Market Share by 2027: Report," Tom's Hardware, April 11, 2023, https://www.tomshardware.com/news/arm-based-cpus-set-to-double-notebook-pc-market-share-by-2027

Arjun Kharpal, "Qualcomm to launch data center processors that link to Nvidia chips," CNBC, May 19, 2025, https://www.cnbc.com/2025/05/19/qualcomm-to-launch-data-center-processors-that-link-to-nvidia-chips.html

Arm, "The ARM processor business model,"

https://developer.arm.com/documentation/dht0001/a/architectures--processors--and-devices/the-arm-processor-business-model, accessed August 22, 2025

Ben Schoon, "Google Pixel grows in US, settling into top 4 spot ahead of Pixel 10 launch," 9to5google, July 28, 2025, https://9to5google.com/2025/07/28/google-pixel-us-market-share-q2-2025/

Ben Schoon, "Qualcomm confirms November 15–17 event to reveal its next Snapdragon flagship," 9to5Google, July 19, 2022, https://9to5google.com/2022/07/19/snapdragon-summit-2022

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 501 of 616 PageID #:

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Ben Schoon, "Qualcomm is suing Transsion, the largest smartphone maker that doesn't use Snapdragon," 9to5Google, July 12, 2024, https://9to5google.com/2024/07/12/qualcomm-transsion-lawsuit-report

Beth Kindig, "Arm Stock: AI Chip Favorite Is Overpriced," Forbes, Mar 21, 2024, https://www.forbes.com/sites/bethkindig/2024/03/21/arm-stock-ai-chip-favorite-is-overpriced/

Briana Watson, "SOC vs CPU: Breaking Down the Differences and their Optimal Usage," November 15, 2023, https://www.totalphase.com/blog/2023/11/soc-vs-cpu-breaking-down-the-differences-and-their-optimal-usage/

Charles Martin and Malcom Owen, "The history—and triumph —of Arm and Apple Silicon", Apple Insider, April 22, 2024, https://appleinsider.com/articles/24/04/22/the-history----and-triumph----of-arm-and-apple-silicon

Chris Williams, "Arm shells Qualcomm's Snapdragon launch party with latest salvo in license war," The Register, November 16, 2022, https://www.theregister.com/2022/11/16/arm\_qualcomm\_licensing\_latest/

Chris Williams, "Arm sues Qualcomm over custom Nuvia CPU cores, wants designs destroyed," The Register, August 31, 2022, https://www.theregister.com/2022/08/31/arm\_sues\_qualcomm/

Chris Williams, "Up in arms! Arm kills off its anti-RISC-V smear site after own staff revolt," The Register, July 10, 2018, https://www.theregister.com/2018/07/10/arm\_riscv\_website/

Congressional Research Service, "Antitrust Law: An Introduction," May 1, 2025, https://www.congress.gov/crs\_external\_products/IF/PDF/IF11234/IF11234.8.pdf

David Brash, "The ARMv8-A architecture and its ongoing development," Arm Community, December 2, 2014 https://community.arm.com/arm-community-blogs/b/architectures-and-processors-blog/posts/the-armv8-a-architecture-and-its-ongoing-development

David Manners, "Qualcomm data centre business withers away," Electronics Weekly, December 11, 2018, https://www.electronicsweekly.com/news/business/qualcomm-datacentre-business-withers-away-2018-12/

Deepa Prahalad, "Why Trust Matters More Than Ever for Brands," Harvard Business Review, December 8, 2011 https://hbr.org/2011/12/why-trust-matters-more-than-ev

Dominic Rushe, "Myspace sold for \$35m in spectacular fall from \$12bn heyday," The Guardian, June 30, 2011, https://www.theguardian.com/technology/2011/jun/30/myspace-sold-35-millionnews

Don Fancher, Jennifer Lee, and Debbie McCormack, "Trust: A Critical Asset," Harvard Law School Forum on Corporate Governance, June 17, 2021, https://corpgov.law.harvard.edu/2021/06/17/trust-a-critical-asset/

## Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 502 of 616 PageID #: 26995

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Dylan Patel, "Arm's Nuclear Option – Qualcomm Must Cancel Next-Generation Products If Arm Succeeds," SemiAnalysis, November 16, 2022, https://semianalysis.com/2022/11/16/arms-nuclear-option-qualcomm-must/

Dylan Patel, Myron Xie, Afzal Ahmad and Daniel Nishball, "Arm and a Leg: Arm's Quest To Extract Their True Value," SemiAnalysis, September 14, 2023, https://semianalysis.com/2023/09/14/arm-and-a-leg-arms-quest-to-extract/

Exchange Rates, "British Pound to US Dollar History: 2019," https://www.exchangerates.org.uk/GBP-USD-spot-exchange-rates-history-2019.html

Florian Mueller, "BREAKING: Qualcomm settles with China's Transsion (Africa's smartphone market leader): Indian patent lawsuit withdrawn," ip fray, January 16, 2025, https://ipfray.com/breaking-qualcomm-settles-with-chinas-transsion-africas-smartphone-market-leader-indian-patent-lawsuit-withdrawn/

Francisco Cheng, "What is RISC-V, and why we're unlocking its potential," Qualcomm, September 8, 2023, https://www.qualcomm.com/news/onq/2023/09/what-is-risc-v-and-why-were-unlocking-its-potential

Greg Tang, "Intel and the x86 Architecture: A Legal Perspective," The Harvard Journal of Law & Technology, January 4, 2011, https://jolt.law.harvard.edu/digest/intel-and-the-x86-architecture-a-legal-perspective

Gyana Swain, "Arm secures Meta as first customer in chip push, challenging industry giants," ComputerWorld, February 14, 2025, https://www.computerworld.com/article/3825123/arm-secures-meta-as-first-customer-in-chip-push-challenging-industry-giants.html.

Haroun Adamu, "Did you know: Samsung makes a lot of money from iPhones," Android Authority, June 11, 2025, https://www.androidauthority.com/did-you-know-samsung-apple-partnership-3426411/

Herbert Hovenkamp, "Antitrust Market Definition: the Hypothetical Monopolist and Brown Shoe," Network Law Review, April 4, 2024, https://www.networklawreview.org/hovenkamp-market-definition/

Ian King, "Arm to Scrap Qualcomm Chip Design License in Feud Escalation," Bloomberg, October 22, 2024 (updated on October 23, 2024),

https://www.bloomberg.com/news/articles/2024-10-23/arm-to-cancel-qualcomm-chip-design-license-in-escalation-of-feud

Ian King, "Qualcomm Plans Exit From Server Chips," Bloomberg, May 7, 2018 https://www.bloomberg.com/news/articles/2018-05-07/qualcomm-is-said-to-plan-exit-from-server-chips-amid-cost-cuts

Imogen Beech, "6 real-life coopetition examples," Breezy, September 6, 2023, https://breezy.io/blog/coopetition-examples

## Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 503 of 616 PageID #:

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Jeffrey Mervis, "To beat China, new U.S. law offers billions for microchip research and training," Science, September 6, 2022, https://www.science.org/content/article/beat-china-new-u-s-law-offers-billions-microchip-research-and-training

Jessica Coacci, "Here's the one-page memo Warren Buffett sent to his managers every two years for over 25 years," Yahoo! Finance, August 6, 2025 https://finance.yahoo.com/news/one-page-memo-warren-buffett-140107224.html

Jim McGregor, "Arm Squares Off Against Qualcomm: Day 2," December 18, 2024, https://www.forbes.com/sites/tiriasresearch/2024/12/18/arm-squares-off-against-qualcomm-day-2/

Joseph Calamia, Explained: The Physics-Defying Flight of the Bumblebee, Live Science, February 25, 2011 https://www.livescience.com/33075-how-bees-fly.html

Jowi Morales, "Qualcomm claims it owns 10% of U.S. Windows PC retail market for devices priced \$800 and up," Tom's Hardware, February 6, 2025, https://www.tomshardware.com/tech-industry/qualcomm-claims-it-owns-10-percent-of-u-s-windows-pc-retail-market-for-devices-priced-usd800-and-up

Kelsey Ziser, "MediaTek and Qualcomm's rivalry heats up in 5G smartphone market – Omdia," Light Reading, July 16, 2024, https://www.lightreading.com/smartphones-devices/mediatek-and-qualcomm-s-rivalry-heats-up-in-5g-smartphone-market-omdia

Khadija Khartit, "When Does It Make Sense for a Company to Pursue Vertical Integration?" Investopedia, February 6, 2025, https://www.investopedia.com/ask/answers/012715/when-does-it-makes-sense-company-pursue-vertical-integration.asp

Linley Gwennap, "Editorial: Arm's No-Win Legal Fight," Tech Insights, https://www.techinsights.com/blog/editorial-arms-no-win-legal-fight, accessed August 29, 2025

MacroTrends, "QUALCOMM Research and Development Expenses 2010-2025," https://www.macrotrends.net/stocks/charts/QCOM/qualcomm/research-development-expenses

MacroTrends, "QUALCOMM Revenue 2010-2025," https://www.macrotrends.net/stocks/charts/QCOM/qualcomm/revenue

Majeed Kamran, "Qualcomm's Alphawave Acquisition Targets Data Centers and AI, But What's Next?" EE Times, June 9, 2025, https://www.eetimes.com/qualcomms-alphawave-acquisition-targets-data-centers-and-ai-but-whats-next/

Mark Liu, "x86 Server CPUs Remain Market Mainstream, 7nm Platform May Help AMD to Increase Market Share, Says TrendForce," TrendForce, November 28, 2018, https://www.trendforce.com/presscenter/news/20181128-10076.html

## Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 504 of 616 PageID #:

# HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Matthew Garrahan, Tim Bradshaw, and David Keohane, "Arm to launch its own chip in move that could upend semiconductor Industry," Financial Times, February 13, 2025, https://www.ft.com/content/95367b2b-2aa7-4a06-bdd3-0463c9bad008

Max Cherney, "Exclusive: Arm aims to capture 50% of PC market in five years, CEO says," Reuters, June 3, 2024, https://www.reuters.com/technology/arm-aims-capture-50-pc-market-five-years-ceo-says-2024-06-03/

Melissa Riofrio, "Surface Pro X revealed: Thin, light, and supercharged with a custom SQ1 ARM chip," PC World, October 2, 2019, https://www.pcworld.com/article/398146/microsofts-surface-pro-x-is-thin-light-and-supercharged-with-a-custom-sq1-arm-chip.html

Mike Freeman, "Qualcomm laying off more workers in San Diego, North Carolina to cut costs," The San Diego Union-Tribune, December 8, 2018,

https://www.sandiegouniontribune.com/2018/12/07/qualcomm-laying-off-more-workers-in-sandiego-north-carolina-to-cut-costs/

Mike Wehner, "AIM is officially dead, and your childhood means nothing," Yahoo!News, October 6, 2017, https://www.yahoo.com/news/aim-officially-dead-childhood-means-nothing-174900787.html

Mike Wuerthele, "Apple & ARM's iPhone & Mac chip partnership will continue for decades," Apple Insider, September 5, 2023, https://appleinsider.com/articles/23/09/05/apple-arms-iphone-mac-chip-partnership-will-continue-for-decades

Nikita Kumari, "From Idea to Silicon: How Custom Chip Design Drives Innovation," BISinfotech, July 16, 2025, https://www.bisinfotech.com/from-idea-to-silicon-how-custom-chip-design-drives-innovation

Patent Dispute Report: 2024 Mid-Year Report," Unified Patents, July 22, 2024, https://www.unifiedpatents.com/insights/2024/7/22/patent-dispute-report-2024-mid-year-report

Paul Alcorn, "Intel and AMD are unlikely allies in new x86 ecosystem advisory group," Tom's Hardware, October 15, 2024, https://www.tomshardware.com/pc-components/cpus/intel-and-amd-forge-x86-ecosystem-advisory-group-that-aims-to-ensure-a-unified-isa-moving-forward

Paul Williamson, "Arm Continues to Accelerate IoT Software Development with New Partnerships," Arm Newsroom, November 7, 2022, https://newsroom.arm.com/news/arm-continues-to-accelerate-iot-software-development-with-new-partnerships

Phill Powell, "Types of central processing units (CPUs)," https://www.ibm.com/think/topics/central-processing-unit-types

Qualcomm Financial Summary downloaded from LSEG Data & Analytics

Rajeev Dhir, "Negotiation: Stages and Strategies," Investopedia, June 04, 2024, https://www.investopedia.com/terms/n/negotiation.asp

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 505 of 616 PageID #:

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Rajesh Pandey, "Qualcomm wants Android device makers to pay even more for its next flagship chip," Yahoo Tech, December 2, 2024, https://tech.yahoo.com/phones/articles/qualcomm-wants-android-device-makers-092330024.html

Rashika Singh, "Qualcomm shares slide as Apple modem shift, tariffs raise growth concerns," Yahoo Finance, July 31, 2025, https://finance.yahoo.com/news/qualcomm-shares-slide-apple-modem-085843911.html

Robert Triggs, "Arm vs x86: Instruction sets, architecture, and all key differences explained", Android Authority, December 20, 2023 https://www.androidauthority.com/arm-vs-x86-key-differences-explained-568718/

Roddy Urquhart, "Systems & Design: Opinion, Semiconductor Engineering," March 29, 2021, https://semiengineering.com/what-does-risc-v-stand-for/

Ryan Bourne, "Is This Time Different? Schumpeter, the Tech Giants, and Monopoly Fatalism," Cato Institute, June 18, 2019 https://www.cato.org/publications/policy-analysis/time-different-schumpeter-tech-giants-monopoly-fatalism

Saul Sugarman, "So I visited the last Blockbuster on the planet, and all I got was this t-shirt," The Bold Italic, December 8, 2023, https://thebolditalic.com/so-i-visited-the-last-blockbuster-on-the-planet-and-all-i-got-was-this-t-shirt-ffc6d2ed414d

Sebastian Moss, "Qualcomm announces data center CPUs, will support Nvidia's NVLink Fusion," Data Center Dynamics, May 20, 2025 https://www.datacenterdynamics.com/en/news/qualcomm-announces-data-center-cpus-will-support-nvidias-nvlink-fusion/

Semiconductor Industry Association, "2022 State of the U.S. Semiconductor Industry," November 2022, https://www.semiconductors.org/wp-content/uploads/2022/11/SIA\_State-of-Industry-Report\_Nov-2022.pdf

Shapiro, Carl, "Competition and the Small Business Landscape: Fair Competition and a Level Playing Field," Opening Statement of Professor Carl Shapiro House Committee on Small Business March 1 2022 https://www.congress.gov/117/meeting/house/114436/witnesses/HHRG-117-SM00-Wstate-ShapiroC-20220301.pdf

Simon Sharwood, "Arm gives up on killing off Qualcomm's vital chip license," The Register, February 6, 2025, https://www.theregister.com/2025/02/06/arm\_qualcomm\_nuvia/

Skye Jacobs, "Former Intel engineers from AheadComputing to break CPU performance limits with RISC-V design," TechSpot, June 12, 2025, https://www.techspot.com/news/108281-former-intel-engineers-form-aheadcomputing-break-cpu-performance.html

Stan Gibson, "AWS ARM-based chips could shift microprocessor market," TechTarget, April 28, 2020, https://www.techtarget.com/searchaws/feature/AWS-ARM-based-chips-could-shift-microprocessor-market

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 506 of 616 PageID #: 26999

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Stephen Nellis and Jane Lee, "Arm sues Qualcomm, aiming to unwind Qualcomm's \$1.4 bln Nuvia purchase," Reuters, September 1, 2022, https://www.reuters.com/legal/chips-tech-firm-arm-sues-qualcomm-nuvia-breach-license-trademark-2022-08-31

Stephen Nellis, "Apple inks new long-term deal with Arm for chip technology, according to filing," Reuters, September 5, 2023 https://www.reuters.com/technology/apple-inks-new-long-term-deal-with-arm-chip-technology-filing-2023-09-05/

Stephen Shankland, "SCO targets Linux customers," CNET, May 14, 2003, https://www.cnet.com/tech/services-and-software/sco-targets-linux-customers/

Steve McDowell, "Qualcomm's Game-Changing Move Into Automotive And Industrial IoT," Forbes, January 28, 2025, https://www.forbes.com/sites/stevemcdowell/2025/01/28/qualcomms-game-changing-move-into-automotive-and-industrial-iot/

Steve Mollman, "Blockbuster 'laughed us out of the room,' recalls Netflix cofounder on trying to sell company now worth over \$150 billion for \$50 million," Fortune, October 22, 2024, https://finance.yahoo.com/news/blockbuster-laughed-us-room-recalls-174322621.html

Swagath Bandhakavi, "FTC ends legal challenge against Microsoft's \$69bn Activision Blizzard acquisition," Tech Monitor, May 23, 2025 https://www.techmonitor.ai/digital-economy/big-tech/ftc-microsoft-activision-blizzard-deal

Timothy Green, "Qualcomm is Going After Intel and AMD in This Lucrative Market," January 16, 2025, https://finance.yahoo.com/news/qualcomm-going-intel-amd-lucrative-101500205.html

Tobias Mann, "Jury spares Qualcomm's AI PC ambitions, but Arm eyes a retrial," The Register, December 23, 2024, https://www.theregister.com/2024/12/23/qualcomm\_arm\_trial/

Tom Simonite, "With Its Own Chips, Apple Aims to Define the Future of PCs," Wired, Nov 10, 2020, https://www.wired.com/story/own-chips-apple-aims-define-future-pcs/

- U.S. Department of Justice & The Federal Trade Commission, "Vertical Merger Guidelines," June 30, 2020 (now withdrawn), https://www.ftc.gov/system/files/documents/reports/us-department-justice-federal-trade-commission-vertical-merger-guidelines/vertical\_merger\_guidelines\_6-30-20.pdf
- U.S. Department of Justice & The Federal Trade Commission, Commentary on the Horizontal Merger Guidelines, March 2006, https://www.justice.gov/d9/383663.pdf
- U.S. Department of Justice & The Federal Trade Commission, Merger Guidelines, December 18, 2023, https://www.justice.gov/d9/2023-12/2023%20Merger%20Guidelines.pdf

Victor Keegan, "Will MySpace ever lose its monopoly?" The Guardian, February 8, 2007, https://www.theguardian.com/technology/2007/feb/08/business.comment

## Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 507 of 616 PageID #: 27000

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Wayne Ma & Cory Weinberg, "How a Lopsided Apple Deal Got Under Arm's Skin," The Information, November 29, 2023, https://www.theinformation.com/articles/how-a-lopsided-apple-deal-got-under-arms-skin

Will Abbey, "Flexible Licensing, Boundless Innovation: How Arm is Accelerating Partner Success," Arm, November 1, 2023, https://newsroom.arm.com/blog/arm-licensing-models

Young Hyun Jun, "Dearvalued [sic] customers, investors, and employees of Samsung Electronics," Samsung, October 8, 2024, https://www.samsung.com/global/ir/reports-disclosures/public-disclosure-view.84206/

Zac Hall, "Apple makes up less than 5% of Arm's revenue, and Arm can't do anything about it," 9to5mac, November 29, 2023, https://9to5mac.com/2023/11/29/apple-arm-licensing-revenue/

# Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 508 of 616 PageID #: 27001 HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

APPENDIX C: TRANSCRIPT OF INTERVIEW OF RENE HAAS, ARM'S CEO, OCTOBER 22, 2024

Source: "Arm CEO on Intel, Chips, AI, Listing in US," Bloomberg Technology, YouTube, October 22, 2024, <a href="https://www.youtube.com/watch?v=6FnBz8rxWUY">https://www.youtube.com/watch?v=6FnBz8rxWUY</a>

Peter Elstrom (Executive Editor Technology Bloomberg, PE): That's why I have you. And thank you all for joining us. We have a lot of questions for you, so we'll go ahead and get started. First, I begin. You are not just the of Arm you're now a podcaster. You began in your spare time I guess. You began a new podcast is called 'Tech Unheard' and your first interview was was with Jensen Huang. That's right which I gave a listen to. First of all, what gave you the idea to start a podcast? And secondly, how do you find the time as CEO to do something like that too?

Rene Haas (Arm CEO): Yeah. So first off, thank you again for for having me here. I'm an amateur at this, so you don't have to worry about your day job as far as podcasting goes. You know, we were talking with some of our board members about how to use a unique medium to talk to two leaders, talk about the Arm story. And one of the ideas that was suggested was was a podcast. I was a radio disc jockey actually spinning records in university. So, I had a little bit of experience and aspirations to do that kind of work early in my life. So, in talking with some folks, you know, around the team, we said, you know, let's let's try this and let's do something a little bit more innovative and talk to other leaders and give them a perspective of maybe a conversation that they may not naturally have with someone who's professional like you are. So, yeah, we kicked it off. Please listen, it's on Apple Music, Spotify and Jensen was my first guest.

Peter Elstrom: Great, Great. Congratulations. And, you know, in terms of the business Arm was acquired by SoftBank for about three two billion dollars. At some point, SoftBank agreed to sell it for about 40 billion dollars. That deal didn't go through, of course, NVIDIA was supposed to buy it. That deal didn't go through. Now, you went public just over a year ago, companies worth roughly 160 billion dollars, which seems like a successful IPO. But could you talk to us about what the business model for Arm has been and how it's evolved over time, over that period of time? And especially, what's the strategy going forward?

Rene Haas: Yeah, well, thank you for the you know, for the nice words. 30-year-old plus company. Our business model for most of our time on earth, if you will, was very horizontal in that we had a licensing model. We develop IP. Our products are primarily CPUs. The business model is very horizontal in nature, meaning that we designed a very general-purpose product,

very power efficient product, and then license it to customers independent of the vertical market. And in other words, we didn't really target a certain vertical. I took over the core IP business right after SoftBank bought Arm and we pivoted to a more of a vertical approach, meaning that we now have products very specific for the data center, very specific for automotive, very specific for IoT. Smartphones we were born. And that diversification really allowed us to expand into many new markets with brand new products. SoftBank buying Arm in 2016 allowed us to invest in those new areas. So fast forward the result. What you're seeing now in terms of performance is that strategy. You know, going forward as we think about the next number of years, what we're seeing in the marketplace is a need for more solutions. Chips are getting increasingly more difficult to build. It takes a long time to design a chip, takes even longer to fabricate the chip. So, the more that Arm can do to help customers get to market faster is helpful. So, we're now developing solutions, what we call "CSSs" that get people to market sooner and allow them to get more profitably in a sooner way.

Peter Elstrom: Mm hmm. Okay. I want to talk about AI. And in particular, the opportunities in AI. There is some debate, as we've referred to, I think, in a couple of these sessions about whether there's a bubble in AI. And I I'm going to assume that you think that there are real opportunities there. But can you talk about what Arm's role is there and how you see the company evolving to take advantage of those opportunities?

Rene Haas: So, one of the most unique things about our company is the fact that the device that we build, the CPU, we estimate that 70% of the world's population touches Arm in some way. We're in security cameras, automobiles, PCs, smartphones, data center. And what that means is every workload, whether it's an application, an operating system or AI, runs through Arm in some way. So, that means AI. is going to run on Arm, period. And we're the only company on the planet that can run those AI workloads from the smallest devices on the edge. Again, a wearable, glasses, watch, phone to the data center. So, for us, AI is a gigantic opportunity in terms of growth going forward because AI is going to be everywhere. And as far as a bubble goes, I just don't ascribe to that. I look at things such as when people say, Gosh, is it overhyped? Or the stocks have gone down last quarter. That's almost like saying should I short AT&T in 2000 because the Internet is not going to happen. Or if Ford was a stock in 1907, would I short them? Because the automobile is not going to happen. It's just not. I mean, AI is we've seen such

advancement across the AI in the last couple of years that the amount of innovation that it's going to drive is just going to be incredible.

Peter Elstrom: Okay. Okay. The chip company that probably has taken the most opportunity that has been able to capitalize the most on AI so far is NVIDIA. Chip maker in your space. They now have a near monopoly in terms of the highest end AI accelerators. How do you see that evolving in the future? And are there opportunities for Arm in particular to be able to play in that space and drive real revenue from?

Rene Haas: Yeah. So, we're there already. NVIDIA's most advanced chip called the GB200, which is Grace Blackwell. Microsoft just announced that they're going to be deploying Grace Blackwell, the most advanced NVIDIA chip in their data centers that uses the Arm CPU. So, Grace is the Arm CPU. Blackwell Is the Nvidia GPU. So, Arm is there already. So, we are going to play in the most advanced data centers using AI. Arm, Arm will be there. I think what's most exciting for us, as I mentioned though, is the fact that not only will we be in the data center for training these algorithms, ultimately the training has to be transferred into inference, and training is the teacher inference is the student. Inference is actually running the workload and inference actually running that AI agent that's going to happen in the data center, that's going to happen in the car, that's going to happen on your watch. That's going to happen in glasses, that's going to happen in phones, and everywhere it happens, it's going to run on Arm. So, it's going to be a gigantic opportunity for us. The data center is just one place.

Peter Elstrom: Mm hmm. Okay. So, you see Arm having opportunities kind of from the beginning to the end.

Rene Haas: More than, more than opportunities. The agents will run locally. And the reason for that is you'll have a hybrid situation where some of that will run in the cloud. Some of it will run in your local device. Again, your glasses, your wearable, your phone. But locally, what you'll be able to add is security, things that can make sure it's private to you that not all your data is being passed to the cloud and vice versa. So yeah for for Arm I think it's going to be just an amazingly large opportunity.

Peter Elstrom: Okay. As we were talking about before, I just moved from Japan where we spent a lot of time looking at SoftBank and especially Masayoshi Son's ambitions. We've written stories

about how SoftBank is looking at ways to enter the AI chip market and particularly to compete with NVIDIA, quite directly in GPUs. He has a secret plan "Izanagi" that we've written about in the past. How does Arm isn't still 90% owned by SoftBank? How does Arm fit into that equation?

Rene Haas: Yeah, so no, no product launch announcements today. So, nothing I can say about products coming out that you've written about. I can say that on the SoftBank board member, I do advisory work for SoftBank. I talked to Masa all the time. It's no secret that he is a big believer in AI has been for quite some time. He's talked about it actually, probably as long as any of the folks out there. I think his vision in terms of where it's all coming together now, you can start to see the pieces of it as I just described. Where does Arm fit - all those AI workloads are going to run on Arm somewhere somehow. So that's the reason that we spend a lot of time talking to SoftBank about the future.

Peter Elstrom: Okay. Okay. Earlier we had the ASML CEO on and he was talking about some of the challenges that they're facing in the market. They surprised investors last week as we talked about. And it does seem that there's a little bit of a disconnect in the market where many people see opportunities. ASML reported that their orders were about half what analysts had thought they were going to be. Seems there are certain areas of the chip industry that are struggling quite a bit. And on the other end you have Sam Altman talking about how we need more capacity in the chip industry. We need billions of dollars, maybe trillions of dollars of investment. What is the disconnect and how does that get resolved?

Rene Haas: Yeah, so there's a lot to unpack there. Where Arm plays, as I mentioned because 70 % of the world's population uses Arm. And I think 300 billion chips have shipped since we were started that have Arm inside. And every year about 30 billion chips. We have a unique view into the industry because just about every digital device uses Arm. There are some markets that aren't accelerating as fast as others and candidly those are the ones that aren't using AI in a very large way. But in areas that can use AI and will use AI, people can't go fast enough. And I'll give you an example. Many of the hardware devices that are being introduced today were designed two or three years ago. That means the chips were designed two or three years ago. The chips that are going in your phones or your wearables. Those were all invented before ChatGPT was released

or before Lamo was released. So what we're seeing on one end of the industry is just a rush to develop more and more chips that have this AI capability. Now it takes time. You know, chips aren't built overnight. In fact, it takes from the time we engage a partner, you know, two or three years at least until that comes to market. So I think you'll see some of these new products coming out. I think what Sam is talking about is just generally the ceiling to get to AGI. Artificial general intelligence requires more compute. And the more compute you have, the better the models get. So, I see. I see both. But generally speaking, I'm pretty optimistic about the growth for our industry.

Peter Elstrom: Okay. Okay. We were talking about this a bit before. One of the gating factors is making sure that you have chip manufacturers who can make the most advanced chips. TSMC seems to be gaining market share right now as a couple of the key competitors struggle, Intel in particular. And Samsung also has been struggling a bit. They're both trying to move into the foundry business a bit in competition with TSMC. What what are the dangers around having TSMC garner so much market share in foundry? And is it good for the industry or would it be better if there's a more diversified manufacturing base for the industry?

Rene Haas: Yeah, TSMC is an amazing company. They've just done so much for the industry relative to the innovation, how they work with partners, etc. etc. If you remove semiconductor manufacturing or foundry for a moment and just step back and say, is it healthy for any industry to have a one dominant supplier and then add on top of that a dominant supplier that's largely concentrated in one part of the world? Not, not really. So as a result, I think it's necessary just in terms of diversity of supply base, to have more and more advanced manufacturing and geographic diversity. Fabs in the United States. Fabs in Europe. Fabs in India. Fabs in Saudi Arabia. I think over time, we're going to see not only more suppliers, but geographic diversity as well.

Peter Elstrom: Okay. Governments obviously are investing a lot in that very question. You're seeing the United States do it. You're seeing Europe do it. Japan has spent a lot of money on it, too. Do you think that's making progress at this point? Do you see light at the end of that tunnel?

Rene Haas: It's the capital expenditures required for these fabs are enormous. TSMC, Intel, Samsung, I think their CapEx is anywhere between 30 to 35 billion dollars a year in new

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 514 of 616 PageID #:

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

factories. And if you start looking at the revenues that these companies produce, you start very quickly looking at, oh my gosh, that is a lot of money to invest. Now, on one hand, you can look at it and say, well, the demand will be there, AI, etc., etc.. But it doesn't take much in terms of a year slowdown in demand and the companies have a really negative financial outcome. So, yes, governments have been involved, I think should be involved in my opinion. We saw in the U.S. for the very first time a policy act around CHIPS Act to put funding into the fabs, which I generally a big supporter of. I think it's necessary.

Peter Elstrom: Okay. Let's talk a little bit more about Intel and their struggles. You grew up in a chip industry where Intel was really the dominant player, kind of set the pace for technology evolution over time. Now we're openly talking about whether Intel is going to be broken up, maybe sold into pieces. What kind of opportunities are there for Arm within that space as Intel goes through these struggles?

Rene Haas: Yes, we work very closely with Intel. It's a bit of strange bedfellows. Many folks would consider Arm and Intel to be natural competitors on the product space. But what's very important to us, back to this discussion around supply base is that "Intel Foundry Services" IFS is successful. We do a lot of work with Intel as we do with Samsung and TSMC to ensure that our products can be manufactured there. We work very closely with their engineers to ensure that the leading edge technology can can run on Arm. So, we want to see Intel successful and we want to see IFS successful. I think it might be strange to hear the Arm CEO say that, but we want Intel manufacturing to be successful.

Peter Elstrom: Okay. Bloomberg reported that Arm took a pretty close look at buying a part of Intel. Would you like to comment?

Rene Haas: Nothing I can say on that one.

Peter Elstrom: "Okay. All right. Thank you. Thank you. I wanted to turn. You talked about are moving up the value stack kind of moving beyond its traditional place in the industry. And as you have moved up the value chain, you've gotten closer to doing what some of your customers do."

Rene Haas: "Right."

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 515 of 616 PageID #:

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Peter Elstrom: "Getting closer to being able to do these complete designs. And. Yes. It speeds up innovation, as you were alluding to, but it also puts you in closer competition with some of your customers. You have a lawsuit with Qualcomm in particular."

Rene Haas: "Yeah."

Peter Elstrom: "Isn't it in both companies interest to settle that and to resolve the legal dispute at this point? Or what would you say?"

Rene Haas: "These are these are tough questions. It's a good thing I'm a podcaster, so I know what's coming. You know, first thing on, competing with our customers, you know, it's rather complicated because if you look at some of our customers, our customers are Amazon. Our customers are Microsoft. Our customers are Apple. Our customers are Tesla. They all build chips using Arm. I'm not going to build an electric car. I'm not going to build a phone. I'm not going to build a data center. So, to look at the value chain relative to who builds chips, relative to whether you're end business is a chip business or a product business. It's gotten a lot more gray. We follow what the industry is demanding, and what the industry wants to see is solutions getting to market faster. And that's what we're focused on. Qualcomm. Not much I can say on that, other than we're headed to a trial. I think it's the third week in December. We feel very good about our case. We think our case is quite simple and straightforward. And as I said, December, we'll find out."

Peter Elstrom: "Okay. So, you head to the courtroom then. One last question. I think we have time for this. In this audience in particular, there's a lot of interest in whether Arm, which is historically a British company, whether they would ever look at doing some sort of dual listing. Of course, we've heard about this many times in the past. A year ago when you did your IPO, you decided you would do it in the U.S. instead. One of the opportunities for listing here, what are the pluses and minuses of that sort of thing?"

Rene Haas: "Yeah, we did. We listed in New York over over a year ago. And at that time our comments were we would look at a secondary listing. We're still open to it. It's not something that's top of mind right now, quite candidly. But we'll continue to have discussions with both stakeholders in the government and in the local exchange. We'd love to find a way at some point

## Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 516 of 616 PageID #: 27009

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

in time, but also at the same time, there's a lot of other things that keep me busy relative to my day job."

Peter Elstrom: "Okay. All right. Rene Haas, thank you very much. Please join me in welcoming. Thank you."

## Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 517 of 616 PageID #: 27010 HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY

SUBJECT TO PROTECTIVE ORDER

APPENDIX A: PROFESSOR TIMOTHY S. SIMCOE'S CV

### Timothy S. Simcoe

#### Contact

Boston University Questrom School of Business 595 Commonwealth Avenue Boston, MA 02215 (510) 685-2020 tsimcoe@bu.edu http://people.bu.edu/tsimcoe

### ACADEMIC EMPLOYMENT

#### Boston University, Questrom School of Business

- David J. McGrath Jr. Professor in Strategy & Innovation, 2024-present.
- Professor of Strategy & Innovation, 2022-2024.
- Associate Professor of Strategy & Innovation, 2013-2022.
- Assistant Professor of Strategy & Innovation, 2009-2013.

#### University of Toronto, Joseph L. Rotman School of Management

• Assistant Professor of Strategic Management, 2004-2009.

#### APPOINTMENTS

#### President's Council of Economic Advisers

• Senior Economist, 2014-2015.

#### National Bureau of Economic Research

- Research Associate, Productivity Program, 2016-present.
- Faculty Research Fellow, Productivity Program, 2009-2016.

#### BU Technology & Policy Research Initiative

• Faculty Director, 2020-present.

### EDUCATION

#### University of California at Berkeley

- Ph.D., Business Administration, 2004
- M.A., Economics, 2003

#### Harvard University

• A.B., Applied Math & Economics, 1996

#### **PUBLICATIONS**

#### Refereed Articles

Mezzanotti, F. and T. Simcoe. Innovation, Patenting and Appropriability: Survey Evidence from a Nationally Representative Sample of U.S. Firms, *Review of Economics and Statistics*, forthcoming.

- R. A. Gibbs, T. Simcoe and D. Waguespack. Does Earnings Management Matter for Strategy Research *Strategic Management Journal*, forthcoming.
- B. Ganglmair, E. Tarantino and T. Simcoe. Learning When to Quit: An Empirical Model of Experimentation in Standards Development. *AEJ: Microeconomics*, 17(3):164–190, August 2025.
- C. Righi and T. Simcoe. Patenting Inventions or Inventing Patents? Continuation Practice at the USPTO. *RAND Journal of Economics*, 54(3):416–442, Fall 2023.
- J. Baron, B. Ganglmair, N. Persico, T. Simcoe and E. Tarantino. Representation is Not Sufficient for Selecting Gender Diversity. *Research Policy*, 53(6):104994, July 2024.
- R. Bekkers, C. Catalini, A. Martinelli, C. Righi and T. Simcoe. Disclosure Rules and Declared Essential Patents. *Research Policy*, 52(1):104618, January 2023.

- E. Basker and T. Simcoe. Upstream, Downstream: Diffusion and Impact of the Universal Product Code. *Journal of Political Economy*, 129(4):1252–1286, April 2021.
- A. King, B. Goldfarb and T. Simcoe. Learning from Testimony on Quantitative Research in Management. *Academy of Management Review*, 46(3):465–488, July 2021.
- X. Li and T. Simcoe. Competing or Complementary Labels? Estimating Spillovers in Chinese Green Building Certification. *Strategic Management Journal*, 42(13): 2451–2476, December 2021.
- A. Agrawal, C. Rosell and T. Simcoe. Tax Credits and Small Firm R&D Spending. American Economic Journal: Economic Policy, 12(1): 1–21. Lead Article, May 2020.
- M. Rysman, T. Simcoe and Y. Wang. Differentiation Strategies in the Adoption of Environmental Standards: LEED from 2000 to 2014. *Management Science*, 66(9): 4173–4192, September 2020.
- T. Simcoe and J. Watson. Forking, Fragmentation and Splintering. *Strategy Science*, 4(4):251–342, December 2019.
- F. Mezzanotti and T. Simcoe. Patent Policy and American Innovation After eBay: An Empirical Examination. *Research Policy*, 48(5): 1271–1281, June 2019.
- C. Righi and T. Simcoe. Patent Examiner Specialization. *Research Policy*, 48(1):137–148, February 2019.
- M. Lemley and T. Simcoe. How Essential are Standard Essential Patents? *Cornell Law Review*, 104(3): 607–642, March 2019.
- M. Catillon, P. Gertler and T. Simcoe. Who Benefits Most in Disease Management Programs?: Improving Target Efficiency. *Health Economics*, 28(2): 189–203, February 2019.
- L. Freedman, I. Cockburn and T. Simcoe. The Economics of Reproducibility in Preclinical Research. *PLoS Biology*, 13(6): e1002165, June 2015.
- T. Simcoe and M. Toffel. Government Green Procurement Spillovers: Evidence from Municipal Building Policies in California. *Journal of Environmental Economics and Management*, 68(3):411–434. Lead article, November 2014.
- E. Rawley and T. Simcoe. Information, Knowledge and Asset Ownership in Taxicab Fleets. *Organization Science*, 24(3): 831–845, May-June 2013.
- J. Farrell and T. Simcoe. Choosing the Rules for Consensus Standardization. The RAND Journal of Economics, 43(2): 235-252, Summer 2012.
- T. Simcoe. Standard Setting Committees: Consensus Governance for Shared Technology Platforms. *American Economic Review*, 102(1): 305–336, February 2012.
- M. Rysman and T. Simcoe. A NAASTy Alternative to RAND Pricing Commitments. *Telecommunications Policy*, 35(11): 1010–1017, December 2011.
- A. Galasso and T. Simcoe. CEO Overconfidence and Innovation. *Management Science*, 57(8): 1469–1484, August 2011.
- T. Simcoe and D. Waguespack. Status, Quality and Attention: What's in a (Missing) Name? *Management Science*, 57(2): 274–290, February 2011.
- A. Mehta, M. Rysman and T. Simcoe. Identifying the Age Profile of Patent Citations: New Estimates of Knowledge Diffusion. *Journal of Applied Econometrics*, 25 (7): 1073–1222, November/December 2010.
- E. Rawley and T. Simcoe. Diversification, Vertical Contracting and Diseconomies of

- Scope: Evidence from the Taxicab Industry.  $Management\ Science,\ 56(9)$ : 1534–1550, September 2010.
- T. Simcoe, S. J. Graham and M. Feldman. Competing on Standards? Entrepreneurship, Intellectual Property and Platform Technologies. *Journal of Economics and Management Strategy*, 18(3): 775–816, Fall 2009.
- M. Rysman and T. Simcoe. Patents and the Performance of Voluntary Standard Setting Organizations. *Management Science*, 54(11): 1920–1934, November 2008.
- D. Mowery and T. Simcoe. Is the Internet a US Invention? An Economic and Technological History of Computer Networking. *Research Policy*, 31(8-9): 1369–1387, 2002.
- J. Macher, D. Mowery and T. Simcoe. eBusiness and the Semiconductor Industry Value Chain: Implications for Vertical Specialization and Integrated Semiconductor Manufacturers. *Industry and Innovation*, 9:155–181, 2002.

#### Working Papers

- Mezzanotti, F. and T. Simcoe. Research and/or Development: Financial Frictions and Innovation Investment. R&R at *Journal of Finance*
- N. Sahoo, T. Simcoe and X. Yang. Effects of Content Sourcing Strategy on Online News Subscription. R&R at MIS Quarterly.
- D-S. Jeon, Y. Lefouili, Y. Li and T. Simcoe. Ecosystems and Complementary Platforms.

#### Other Publications

- T. Simcoe. Standard Setting Organizations. Chapter in the *Elgar Encyclopedia on the Economics of Competition and Regulation*, forthcoming.
- K. Blind, M. Kenney, A. Leiponen and T. Simcoe. Standards and Innovation: A Review and Introduction to the Special Issue. *Research Policy*, 52(8), October 2023.
- J. Contreras, T. Simcoe et al. Preserving the Royalty-Free Standards Ecosystem. *European Intellectual Property Review*, 45(7): 371-375, June 2023.
- E. Hovenkamp and T. Simcoe. Tying and Exclusion in FRAND Licensing: Evaluating Qualcomm. *The Antitrust Source*, February 2020.
- A. Sesia, T. Simcoe and M. Toffel. Platform LEEDership at the U.S. Green Building Council. Harvard Business School Case 619-027, May 2018.
- B. Goldfarb, A. King and T. Simcoe. Heritability of Trust and Distrust Remains Unknown. Letter to *Proceedings of the National Academy of Sciences*, January 2018.
- S. Graham, P. Menell, C. Shapiro and T. Simcoe. Final Report of the Berkeley Center for Law & Technology Patent Damages Workshop. *Texas Intellectual Property Law Journal*, 25 (1): 115–142, 2017.
- A. Shampine and T. Simcoe. Economics of Patents and Standardization: Network Effects, Hold-up, Hold-out, Stacking. The Cambridge Handbook of Technical Standardization Law, Vol. 1. Cambridge University Press, 2017.
- T. Simcoe and C. Righi. Standards, Patents and Innovation. Handbook of Standards and Innovation. Edward Elgar, 2017.
- T. Simcoe. How to Make and Keep a Patent Pledge. Pages 285–290 in *Patent Pledges: Global Perspectives on Patent Law's Private Ordering Frontier*. Edward Elgar, 2017.

- T. Simcoe. Modularity and the Evolution of the Internet. Chapter 1 in *Economic Analysis of the Digital Economy*. University of Chicago Press, 2015.
- A. Agrawal, S.J. Graham, M. Rysman and T. Simcoe. Industry Standards, Intellectual Property and Innovation: Introduction to the Special Issue. *International Journal of Industrial Organization*, 36:1-3 (September 2014).
- T. Simcoe. Governing the Anti-commons: Institutional Design for Standard Setting Organizations. In *Innovation Policy and the Economy*, 14:99–128, 2014.
- T. Simcoe. Private and Public Approaches to Patent Holdup in Industry Standard-Setting. *Antitrust Bulletin*, 57(1): 59–88, Spring 2012.
- J. Farrell and T. Simcoe. Four Paths to Compatibility. pages 34–58 in the Oxford Handbook of the Digital Economy. Oxford University Press, 2012.
- T. Simcoe. Delay and *de jure* Standardization: Exploring the Slowdown in Internet Standards Development. Pages 260–295 in *Standards and Public Policy*. Cambridge University Press, 2007.
- T. Simcoe. Explaining the Increase in Intellectual Property Disclosure. Pages 260–295 in *Standards Edge: The Golden Mean*. Bolin Group, 2007.
- T. Simcoe. Open standards and Intellectual Property Rights. Pages 161–183 in *Open Innovation: Researching a New Paradigm*. Oxford University Press, 2006.
- D. Mowery and T. Simcoe. Public and Private Participation in the Development and Governance of the Internet. Pages 259–294 in *The Limits of Market Organization*. Russell Sage, 2005.
- D. Mowery and T. Simcoe. The Origins and Evolution of the Internet. Pages 229–265 in *Technological Innovation and Economic Performance*. Princeton University Press, 2002.
- M. Rysman and T. Simcoe. Measuring the Performance of Standard Setting Organizations. Pages 81–94 in *International Standardization as a Strategic Tool: Commended Papers from the IEC Centenary Challenge 2006*. International Electrotechnical Commission, 2006.

#### TEACHING

#### Boston University Questrom School of Business

Technology Strategy (MBA and Executive MBA)

Strategy and Innovation (Undergraduate)

Competition, Innovation and Strategy (MBA)

Data Analysis (Executive MBA)

Causal Inference in Management Research (PhD)

### University of Toronto, Rotman School of Management

Fundamentals of Competitive Strategy (MBA)

Entrepreneurship & Small Business Management (Undergraduate)

Models & Methods in Strategic Management (PhD)

#### University of California, Berkeley

Economic Analysis for Business Decisions, Teaching Assistant (MBA)

#### Consulting Expert Reports, Depositions and Testimony

United States of America *et al.* (client) v. Google LLC. Eastern District of Virginia. Case No. 1:23-cv-00108.

Apple (client) v. Qualcomm. Southern District of California. Case No. 3:17-CV-0108.

Microsoft (client) v. Motorola. Western District of Washington. Case No. C10-1823-JLR.

HTC Corporation (client) v. Ericsson. Eastern District of Texas. Case No.  $6{:}18{:}CV{-}00243{:}\mathrm{JRG}.$ 

ViiV Healthcare, (client) v. Gilead Sciences. District of Delaware. Case No. 1:18-CV-0224-VAC-CJB.

In Re: Qualcomm Securities Class Action Litigation (plaintiff client). Southern District of California. Case No. 3:17-CV-00121-JO-MSB

Fujitsu v. Tellabs (client). Northern District of Illinois, Eastern Division. Civil Action No. 09 CV 04530.

In the Matter of Certain Video Capable Electronic Devices, Including Computers, Streaming Devices, Televisions, Cameras, and Components and Modules Thereof (clients Amazon and Hewlett Packard). U.S. International Trade Commission Investigations Nos. 337-1379 and 337-1380.

In the Matter of Video-Capable Laptop, Desktop Computers, Handheld Computers, Tablets, Televisions, Projectors, and Components and Modules Thereof (clients Acer, AsusTek and HiSense). U.S. International Trade Commission Investigation No. 337-TA-448.

Apple (client) v. Motorola. Western District of Wisconsin. Case No. 11-CV-178.

Lenovo (client) and Motorola Mobility v. InterDigital Technology Corporation et al. District of Delaware. Case No. 19-1590-LPS

3G Licensing, Koninklijke KPN and Orange v. LG Electronics (client). District of Delaware. Case No. 17-cv-85-LPS.

Global Communications (client) v. Direct TV, et al. Northern District of Florida. Case No. 4:12-CV-00651-RH-CAS.

Zenith Electronics, Panasonic, U.S. Philips and The Trustees of Columbia University v. Craig Electronics (client). Southern District of Florida. Case No. 13-CV-80567.

#### Other Consulting

Wireless standards developer (client). Review of bylaws and procedures.

Boston Toronto Group (client). Executive education.

#### Service University Governance

Strategy & Innovation Department Chair, 2024-present PhD Program Director (2015-2017, 2018-2022.)

#### **Editorial and Advisory Positions**

American Economic Journal: Economic Policy, Board of Editors, 2021.

Management Science, Associate Editor in Innovation and Entrepreneurship, 2014-present.

Journal of Industrial Economics, Associate Editor, 2013-present.

Management Science, Associate Editor in Business Strategy, 2012-present.

NIST Visiting Expert Committee on US National Standards Strategy for Critical and Emerging Technologies, 2023-24.

National Academy of Sciences, Member of Committee on Intellectual Property Management Practices of Standard Setting Organizations, 2012-2013.

National Academy of Sciences, Member of Committee on the Review of the Small Business Innovation Research and Small Business Technology Transfer Programs at the National Science Foundation, 2019-2021.

Co-founder, Sloan Management Review Strategy Forum, 2018-2023.

Scientific Advisory Board, Global Biological Standards Institute, 2015-2018.

#### Doctoral Advising & Committees

Xia Li, London Business School (Primary Advisor, 2023).

Jeremy Watson, University of Minnesota (Primary Advisor, 2018).

Cesare Righi, Pompeu Fabra University (Primary Advisor, 2017).

Jane Wu, UCLA (Committee Member, 2022).

Sophie Wang, UIBE Beijing (Committee Member, 2021).

Christian Catalini, MIT Sloan School (Committee Member, 2013)

Paul Seaborn, University of Denver (Primary Advisor, 2011)

Jay Horwitz, University of Bocconi (Committee Member, 2011)

Elena Kulchina, Duke University (Committee Member, 2012)

Justus Baron, Ecole des Mines / ParisTech (Committee Member, 2012)

AWARDS

Innovators Network Foundation Intellectual Property Fellow, 2021-2023

Broderick Award for Excellence in Research, 2022.

Dean's Research Scholar, 2015-2018, 2020-2022

Outstanding Contribution to Questrom Doctoral Programs, 2018

Questrom Full-time MBA Favorite Elective Professor, 2016

BU Questrom Doctoral Student's Association, Distinguished Mentor Award, 2016

John R. Russell Excellence in Teaching Award, Executive MBA, 2013

Management Science Meritorious Service Award (Reviewer), 2010

Rotman Excellence in Teaching Award, Commerce Program, 2008

Glueck Best Paper Award, Academy of Management BPS Division, 2008

Finalist, IEC Centenary Challenge, 2006

Finalist, Organization Science Dissertation Proposal Competition, 2003

Grants

Intel Corporation Research Gift, 2017-2020

Bell Canada University Labs, 2007-2008

Connaught New Faculty Start-Up Award, 2004-2008

Berkeley Center for I.T. Research in the Interest of Society, 2003-2004

Intel Corporation Robert M. Noyce Memorial Fellowship, 2001-2002

Haas School of Business Ph.D. Fellowship, 1999-2000

Harvard College Fellowship, 1992-1995

## Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 524 of 616 PageID #: 27017

PRIOR WORK Ernst & Young LLP

EXPERIENCE Senior Consultant, Center for Business Innovation, Boston MA, 1998-1999

Consultant, E&Y Economics Consulting, Washington DC, 1996-1998

OTHER Professional Societies

American Economics Association, Academy of Management, Strategy Research Forum,

International Society for New Institutional Economics

Computer Code

STATA xtpqml: Robust inference in fixed-effects poisson regression STATA mtad: Multinomial test of agglomeration and dispersion

Personal Married: Stephanie Tobias Gates (August 2002)

Children: Katherine, Anne and Theodore

Interests: Michigan Sailing, North Haven Golf Club, Harvard Alumni Jazz Band

## 

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

APPENDIX B: MATERIALS RELIED UPON

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 526 of 616 PageID #: 27019

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

### **Legal Documents**

- "Arm's First (Corrected) Supplemental Objections and Responses to Qualcomm's First Set of Interrogatories (Nos. 1-11)," Arm Ltd., March 1, 2024
- "Arm's First Supplemental Objections and Responses to Qualcomm's First Set of Interrogatories (Nos. 1–3)," Arm Holdings, July 11, 2025
- "Arm's First Supplemental Response to Qualcomm's Amended Interrogatory No. 3," Arm Holdings, July 11, 2025
- "Arm's First Supplemental Objections and Responses to Qualcomm's Second Set of Interrogatories (Nos. 4-11)," Arm Holdings, July 11, 2025
- "Arm's First Supplemental Objections and Responses to Qualcomm's Third Set of Interrogatories (No. 12), Arm Holdings, July 11, 2025
- "Arm's Responses & Objections to Qualcomm's First Set of Request for Admissions (Nos. 1-28)," Arm Holdings, July 11, 2025
- "Plaintiffs' Responses and Objections to Defendant's First Set of Interrogatories (Nos. 1–9)," Qualcomm, March 10, 2025
- "Plaintiffs' Supplemental Responses and Objections to Defendant's First Set of Interrogatories (Nos. 1–9)," Qualcomm, July 11, 2025
- "Plaintiffs' Third Supplemental Responses and Objections to Defendant's First Set of Interrogatories (Nos. 1–9)," Qualcomm, August 8, 2025
- "Plaintiffs' Supplemental Responses and Objections to Defendant's Second Set of Interrogatories (Nos. 10-13)," Qualcomm, July 11, 2025
- "Plaintiffs' Second Supplemental Responses and Objections to Defendant's Second Set of Interrogatories (Nos. 10-13)," Qualcomm, August 8, 2025
- "Plaintiffs' Responses and Objections to Defendant's Third Set of Interrogatories (Nos. 14-24)," Qualcomm, July 11, 2025
- "Plaintiffs' First Supplemental Responses and Objections to Defendant's Third Set of Interrogatories (Nos. 14-24)," Qualcomm, August 8, 2025
- "Plaintiffs' Responses and Objections to Defendant's First Set of Requests for Admission (Nos. 1-30)," Qualcomm, July 11, 2025

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 527 of 616 PageID #:

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Qualcomm Inc. v. Arm Holdings, plc., C.A. No. 24-490-MN, Dkt. Nos. 137; 137-1 (Ex. A) (June 3, 2025)

Arm Ltd. v. Qualcomm Inc., No. 1:22-cv-01146 (D. Del. filed August 31, 2022), Dkt. Nos. 571, 572

Arm Ltd. v. Qualcomm Inc., No. 1:22-cv-01146 (D. Del. filed August 31, 2022), Dkt. No. 1

Arm v. Qualcomm, No. 22-1146 (MN), Plaintiff Arm Ltd.'s Answer and Affirmative Defenses to Defendants Qualcomm Inc., Qualcomm Technologies, Inc., and Nuvia, Inc.'s Amended Counterclaim, D.I. 21, November 15, 2022

Arm v. Qualcomm, No. 22-1146 (MN), Pretrial Conference Transcript, November 20, 2024

Qualcomm Inc. v. Arm Holdings, plc., C.A. No. 24-490-MN, Dkt. No. 233, Arm's Opening Brief In Support of Its Partial Motion To Dismiss Qualcomm's Second Amended Complaint, June 17, 2025

Baumol, William J. and 18 other leading economics scholars, "Supreme Court Amicus Brief Regarding Morgan Stanley Capital Group Inc. v. Public Utility District No. 1 of Snohomish County, Washington," December 2007

Complaint for Patent Infringement, *Qualcomm Inc. v. Apple Inc.*, No. 3:17-cv-01375-JAH-AGS (S.D. Cal. filed July 6, 2017), https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/2017-07-06\_complaint.pdf

*eBay Inc. and Half.com v. MercExchange, L.L.C.*, Brief of Amici Curiae Qualcomm Inc. & Tessera, Inc. in Support of Respondent, 547 U.S. 388 (2006) (No. 05-130)

Expert Report of Dr. Michael C. Brogioli, September 5, 2025

Expert Report of Mr. Steven Richards, CPA, September 5, 2025

Expert Report of Eric A. Posner, August 8, 2025

Expert Report of Patrick F. Kennedy, August 8, 2025

Expert Report of Patrick F. Kennedy, February 27, 2024

Federal Trade Commission v. Qualcomm Incorporated, "Reply brief for appellant Qualcomm Incorporated (Redacted)," Qualcomm Incorporated, December 16, 2019, No. 19-16122, Dkt. Entry 228, United States Court of Appeals for the Ninth Circuit

Plaintiffs' Supplemental Responses and Objections to Defendant's Second Set of Interrogatories (Nos. 10–13)," Qualcomm, July 11, 2025

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 528 of 616 PageID #: 27021

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

I incorporate by reference all documents cited in ARM's and Qualcomm's discovery responses, and all materials relied upon by Prof. Posner and Dr. Kennedy.

### **Case Law**

Brown Shoe Co., Inc. v. United States, 370 U.S. 294 (1962)

Brunswick Corp. v. Pueblo Bowl-O-Mat, Inc., 429 U.S. 477, 488 (1977)

Cargill, Inc. v. Monfort of Colorado, Inc., 479 U.S. 104 (1986)

Federal Trade Commission v. Tempur Sealy International and Mattress Firm Group Inc., U.S. District Court, Southern District of Texas, Civil Action No. 4:24-cv-02508, Opinion and Order Denying Motion for Preliminary Injunction, Case 4:24-cv-02508, Dkt. Entry 511 (S.D. Tex. Jan. 31, 2025)

United States v. Aluminum Co. of Am., 148 F.2d 416, 430 (2d Cir. 1945)

United States v. Microsoft Corp., 253 F.3d 59 (2001)

### **Deposition Testimony and Associated Exhibits**

Arm v. Qualcomm, Trial Transcript, Vol 2.1, December 16, 2024

Arm v. Qualcomm, Trial Transcript, Vol 3.1, December 17, 2024

Arm v. Qualcomm, Trial Transcript, Vol. 4.1, December 18, 2024

Deposition of Akshay Bhatnagar, July 10, 2025

Deposition of Ami Badani, August 1, 2025

Deposition of Andrew Howard, July 1, 2025

Deposition of Ann Chaplin, July 11, 2025

Deposition of Anupa George, July 30, 2025

Deposition of Aparajita Bhattacharya, July 7, 2025

Deposition of Christine Tran, July 10, 2025

Deposition of Christopher Patrick, July 2, 2025

Deposition of Cristiano Amon, July 3, 2025

Deposition of Durga Malladi, July 10, 2025

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 529 of 616 PageID #: 27022

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Deposition of Ehab Youssef, June 26, 2025

Deposition of Gerard Williams, June 25, 2025

Deposition of Gerard Williams, November 3, 2023

Deposition of James Jeon, July 11, 2025

Deposition of James Thompson, November 28, 2023

Deposition of Jannik Nelson, July 10, 2025

Deposition of Jean-Francois (Jeff) Vidon, July 1, 2025

Deposition of Jeff Golden, July 3, 2025

Deposition of Jeffrey M. Fonseca, July 9, 2025

Deposition of Jignesh Trivedi, July 9, 2025

Deposition of John Horley, July 8, 2025

Deposition of Jonathan Weiser, July 11, 2025

Deposition of Karl M. Whealton, June 18, 2025

Deposition of Karthik Shivashankar, June 20, 2025

Deposition of Kenneth Siegel, July 4, 2025

Deposition of Kurt Wolf, June 25, 2025

Deposition of Larissa Cochron, July 11, 2025

Deposition of Laura Sand, July 8, 2025

Deposition of Lynn Couillard, July 3, 2025

Deposition of Manju Varma, June 24, 2025

Deposition of Mark Dragicevich, June 27, 2025

Deposition of Martin Weidmann, June 20, 2025

Deposition of Michael Williams, June 27, 2025

Deposition of Mohamed Awad, July 29, 2025

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 530 of 616 PageID #: 27023

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Deposition of Paul Kranhold, July 17, 2025

Deposition of Paul Williamson, July 2, 2025

Deposition of Pavankumar (Pavan) Mulabagal, July 1, 2025

Deposition of Peter Greenhalgh, July 4, 2025

Deposition of Philip Hughes, June 17, 2025

Deposition of Rene Haas, July 7, 2025

Deposition of Richard Grisenthwaite, July 2, 2025

Deposition of Richard Meacham, June 27, 2025

Deposition of Selena LaCroix, August 1, 2025

Deposition of Simon Segars, November 16, 2023

Deposition of Spencer Collins, June 30, 2025

Deposition of Sudeep Holla, June 17, 2025

Deposition of Tim Herbert, October 25, 2023

Deposition of Vivek Agrawal, July 11, 2025

Deposition of Will Abbey, June 26, 2025

Deposition of Will Abbey, October 27, 2023

Deposition of Ziad Asghar, July 7, 2025

### **Conversations**

Conversation with Dr. Michael C. Brogioli, September 2, 2025

Conversation with Mohamed Awad, August 29, 2025

Conversation with Paul Williamson, September 2, 2025

### **SEC Filings**

Arm Holdings plc, Form F-1, August 21, 2023, https://www.sec.gov/Archives/edgar/data/1973239/000119312523216983/d393891df1.htm

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 531 of 616 PageID #: 27024

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Arm Holdings plc, Amendment No. 2 to Form F-1, September 5, 2023, https://www.sec.gov/Archives/edgar/data/1973239/000119312523228059/d393891df1a.htm

Arm Holdings plc, Form 20-F, for the fiscal year ended March 31, 2024, https://investors.arm.com/static-files/dcdd6629-24bb-40ef-ba55-8aca1362205a

Arm Holdings plc, Form 20-F, for the fiscal year ended March 31, 2025, https://investors.arm.com/static-files/9be77c9d-75ee-4639-bfe4-17efd23c56b5

Intel Corporation, 2021 Form 10-K, for the fiscal year ended December 25, 2021, https://www.intc.com/filings-reports/all-sec-filings/content/000050863-22-000007/000050863-22-000007.pdf

Intel Corporation, 2024 Form 10-K, for the fiscal year ended December 28, 2024, https://www.intc.com/filings-reports/all-sec-filings/content/0000050863-25-000009/0000050863-25-000009.pdf

Qualcomm Incorporated, Form 10-K, for the fiscal year ended September 29, 2024, https://d18rn0p25nwr6d.cloudfront.net/CIK-0000804328/fd08c4f6-61ba-4a6a-a339-0e3b522ed739.pdf

Qualcomm Incorporated, Form 10-K, for fiscal years 2019 – 2024, https://investor.qualcomm.com/financial-info-sec-filings/sec-filings/default.aspx

Qualcomm Incorporated, Form 10-Q, for the quarterly period ended December 26, 2021, https://d18rn0p25nwr6d.cloudfront.net/CIK-0000804328/c91b841c-1f3f-4762-9c0d-c379f1554455.pdf

Qualcomm Incorporated, Form 10-Q, for the quarterly period ended December 29, 2024, https://d18rn0p25nwr6d.cloudfront.net/CIK-0000804328/1b687286-85e9-44e6-a579-d19d089eacfb.pdf

Qualcomm Incorporated, Form 10-Q, for the quarterly periods 2019 – 2024, https://investor.qualcomm.com/financial-info-sec-filings/sec-filings/default.aspx

### **Bates Numbered Documents**

ARM\_00000003

ARM\_00000016

ARM\_00000017

ARM\_00000382

ARM 00000510

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 532 of 616 PageID #: 27025

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

ARM	00002955
7 7 1 X 1 X 1	00002733

ARM\_00004029

ARM\_00026351

ARM\_00032601

ARM\_00032602

ARM\_00045266

ARM\_00055357

ARM\_00057511

ARM\_00057560

ARM\_00076604

ARM\_00080472

ARM\_00081203

ARM\_00081461

ARM\_00081462

ARM\_00081753

ARM\_00086285

ARM\_00087465

ARM\_00088600

ARM\_00092788

ARM\_00095947

ARM\_00097388

ARM\_00103918

ARM\_00104733

ARM\_00110511

## Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 533 of 616 PageID #: 27026

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

ARM_00113179
ARM_00115827
ARM_00117493
ARM_00118635
ARM_00119602
ARM_00119603
ARM_01215409
ARM_01215878
ARM_01215886
ARM_01230861
ARM_01230977
ARM_01230978
ARM_01238895
ARM_01239056
ARM_01246942
ARM_01249629
ARM_01259705
ARM_01282304
ARM_01293447
ARM_01294236

ARM\_01305915

ARM\_01311208

ARM\_01314793

ARM\_01426938

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 534 of 616 PageID #: 27027

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

ARM	014277	19
$\Delta I \times I \times I$	U1 <del>1</del> 4//	1/

ARM\_01427776

ARM\_01427796

ARM\_01428339

ARMQC\_00000640

ARMQC\_02600713

ARMQC\_02601118

ARMQC\_02725050

ARMQC\_02726982

ARMQC\_02727610

ARMQC\_02729412

ARMQC\_02731630

ARMQC\_02739661

ARMQC\_02740205

ARMQC\_02740386

ARMQC\_02748499

ARMQC\_02749177

ARMQC\_02762992

ARMQC\_02770485

ARMQC\_02770649

ARMQC\_02770676

ARMQC\_02771127

ARMQC\_02771946

ARMQC\_02772366

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 535 of 616 PageID #: 27028

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

ARMOC	02779314

ARMQC\_02779364

ARMQC\_02779391

ARMQC\_02779433

ARMQC\_02779483

ARMQC\_02783619

ARMQC\_02785287

QCARM\_0020011

QCARM\_0020012

QCARM\_0027980

QCARM\_0222737

QCARM\_0275743

QCARM\_0332490

QCARM\_0337839

QCARM\_0338297

QCARM\_0338573

QCARM\_0338883

QCARM\_0343120

QCARM\_0343954

QCARM\_0353229

QCARM\_0550516

QCARM\_0550518

QCARM\_0589823

QCARM\_0591733

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 536 of 616 PageID #: 27029

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

<b>OCARM</b>	3460234
OCAINI	ンサひひをシサ

QCARM\_3474751

QCARM\_3839896

QCARM\_3972031

QCARM\_7401071

QCARM\_7484882

QCVARM\_0449658

QCVARM\_0451587

QCVARM\_0455391

QCVARM\_0463558

QCVARM\_0463837

QCVARM\_0464076

QCVARM\_0464648

QCVARM\_0465090

QCVARM\_0526828

QCVARM\_0527544

QCVARM\_0528956

QCVARM\_0532239

QCVARM\_0534597

QCVARM\_0537065

QCVARM\_0538870

QCVARM\_0538873

QCVARM\_0541454

QCVARM\_0573677

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 537 of 616 PageID #:

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

OCVARM	0600104
	OUUUIUT

QCVARM\_0608391

QCVARM\_0621447

QCVARM\_0621448

QCVARM\_0847188

QCVARM\_0851120

QCVARM\_0851449

QCVARM\_0855438

QCVARM\_0856270

QCVARM\_0856888

QCVARM\_0857113

QCVARM\_0857152

QCVARM\_0863181

QCVARM\_0863573

QCVARM\_0863641

QCVARM\_0864713

QCVARM\_0864833

QCVARM\_0864924

QCVARM\_0865022

QCVARM\_0865236

QCVARM\_0865274

QCVARM\_0865311

QCVARM\_1014030

QCVARM\_1024852

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 538 of 616 PageID #: 27031

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

QCVARM\_1031097

QCVARM\_1066820

QCVARM\_1069058

QCVARM\_1069082

QCVARM\_1069106

QCVARM\_1069760

QCVARM\_1120481

QCVARM 1120999

QCVARM\_1121176

QCVARM\_112154

QCVARM\_1121674

QCVARM\_1151565

QCVARM\_1151573

QCVARM\_1151615

### **Articles and Books**

"AI Flywheel Gathering Momentum - Initiate Buy," UBS Global Research, November 24, 2024

"Qualcomm Incorporated 2009 and Qualcomm Incorporated 2011 Update," Harvard Business School Teaching Notes, May 25, 2011

Aberra, Adam and Matthieu Chemin, "Does legal representation increase investment? Evidence from a field experiment in Kenya," 2021, Journal of Development Economics, Vol. 150

Armstrong, Mark, "Competition in Two-Sided Markets," 2006, RAND Journal of Economics, Vol. 37, No. 3

Babcock, Linda, George Loewenstein, S. Issacharoff, and Colin Camerer, "Biased Judgements of Fairness in Bargaining," American Economic Review, 1995, Vol. 85, No. 5

Beck, Marissa and Fiona Scott Morton, "Evaluating the Evidence on Vertical Mergers," Review of Industrial Organization, 2021, Vol. 59

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 539 of 616 PageID #:

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Benjamin E. Hermalin et al., "Contract Law," in Handbook of Law & Economics, 2007, Vol. 3, No. 68 (ed. A. Mitchell Polinsky & Steven Shavell)

Blair, Roger D., Christine S. Wilson, D. Daniel Sokol, Keith Klovers and Jeremy A. Sandford, "Analyzing Vertical Mergers: Accounting for the Unilateral Effects Tradeoff and Thinking Holistically About Efficiencies," George Mason Law Review, 2020, Vol. 27, No. 3

Bloom, Nick, Stephen Bond, and John Van Reenen, "Uncertainty and Investment Dynamics," The Review of Economic Studies, 2007, Vol. 74, No. 2

Brandenburger, Adam M. and Barry J. Nalebuff, "The Rules of Co-opetition," Harvard Business Review, 2021

CGS International, "Arm Holdings pcl - Initiate at Outperform and \$160 PT; Content Story in Early Innings," US Equity Research, Sept 12, 2024

De Stefano, Martino and Michael Salinger, "The Complicated Simple Economics of Vertical Mergers," The Journal of Law and Economics, 2025, Vol. 68, No. 1

Donna, Javier D., Pedro Pereira, Yun Pu, Andre Trindade, and Renan C. Yoshida, "Direct sales and bargaining," RAND Journal of Economics, 2024, Vol. 55, No. 4

Federico, Giulio, Fiona Scott Morton, and Carl Shapiro, "Antitrust and Innovation: Welcoming and Protecting Disruption," Innovation Policy and the Economy, 2020, Vol. 20, pp. 125-190

Gans, Joshua "The Disruption Dilemma," MIT Press, 2016

Gilbert, Richard J. and Carl Shapiro, "An Economic Analysis of Unilateral Refusals to License Intellectual Property," Proceedings of the National Academy of Sciences U.S.A., 1996, Vol. 3

Kwon, Yona, Dahee Kang, Sinji Kim, and Seungho Choi, "Coopetition in the SoC Industry: The Case of Qualcomm Incorporated," Journal of Open Innovation: Technology, Market, and Complexity, 2020, Vol. 6, No. 1

Lemley, Mark A. and Carl Shapiro, "Probabilistic Patents," Journal of Economic Perspectives, 2005, Vol. 19, No. 2

Lianos, Ioannis and Pierre Regibeau, "'Vexatious'/'Sham' Litigation: When Can It Arise and How Can It Be Reduced?," The Antitrust Bulletin, 2017, Vol. 62, No. 4

Lu, Shihua, Serge Moresi, and Steven C. Salop, "A Note on Vertical Mergers with an Upstream Monopolist: Foreclosure and Welfare Effects," 2007, Working Paper

Muthoo, Abhinay, "A Non-Technical Introduction to Bargaining Theory," World Economics, April-June 2020, Vol. 1, No. 2

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 540 of 616 PageID #:

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Posner, Richard A., "The Law and Economics of Contract Interpretation," 2004, 83 Texas Law Review 1581

Priest, George L. & Benjamin Klein, "The Selection of Disputes for Litigation," Journal of Legal Studies, 1984, Vol. 13

Schumpeter, Joseph, "Capitalism, Socialism, and Democracy," Harper & Brothers Publishers, 1942

Seitz, Michael and Martin Watzinger, "Contract enforcement and R&D investment," Research Policy, 2017, Volume 46, Issue 1

Shapiro, Carl & Keith Waehrer, "Using and Misusing Microeconomics: Federal Trade Commission v. Qualcomm," Chapter 15, Antitrust Economics at a Time of Upheaval: Recent Competition Policy Cases on Two Continents (ed. John E. Kwoka, Jr., Tommaso M. Valletti & Lawrence J. White), 2023, Competition Policy International

Shapiro, Carl, "Competition and Innovation Did Arrow Hit the Bull's Eye?" in The Rate and Direction of Inventive Activity Revisited (ed. Josh Lerner and Scott Stern), 2012, University of Chicago Press

Shapiro, Carl, "Premiums for high quality products as returns to reputations," The Quarterly Journal of Economics, 1983, Vol. 98, No. 4

Shapiro, Carl, "Vertical Mergers and Input Foreclosure Lessons from the AT&T/Time Warner Case," Review of Industrial Organization, 2021, Vol. 59, pp. 303–341

Spulber, Daniel F., "How Do Competitive Pressures Affect Incentives to Innovate When There is a Market for Inventions?" Journal of Political Economy, 2013, Vol. 121, No. 6, pp. 1007-1054

Tirole, Jean, "Competition and the Industrial Challenge for the Digital Age," Annual Review of Economics, 2020, Vol. 156

Yang, Chenyu, "Vertical Structure and Innovation: A Study of the SoC and Smartphone Industries," The RAND Journal of Economics, 2022, Vol. 51, No. 3, pp. 739–785

### **Websites and Other Public Sources**

"2023 Patent Litigation Report," Bloomberg Law, https://pro.bloomberglaw.com/insights/intellectual-property/2023-patent-litigation-report/

"4 Reasons Qualcomm's Data Center Business Failed," The Motley Fool, December 21, 2018, https://www.nasdaq.com/articles/4-reasons-qualcomms-data-center-business-failed-2018-12-21

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 541 of 616 PageID #:

- "4Q24 Global Top 10 Foundries Set New Revenue Record, TSMC Leads in Advanced Process Nodes," TechPowerUp, March 10, 2025, https://www.techpowerup.com/333868/4q24-global-top-10-foundries-set-new-revenue-record-tsmc-leads-in-advanced-process-nodes
- "About RISC-V," RISC-V International, https://riscv.org/about/, accessed August 15, 2025
- "Accelerating the RISC-V Software Ecosystem," RISE, The Linux Foundation Projects, https://riseproject.dev/, accessed August 26, 2025
- "AI Accelerator Chips Overview and Comparison," HardwareBee, https://hardwarebee.com/ai-accelerator-chips-overview-and-comparison/, accessed on August 22, 2025
- "Apple announces Mac transition to Apple silicon," Apple Newsroom, June 22, 2020, https://www.apple.com/newsroom/2020/06/apple-announces-mac-transition-to-apple-silicon/
- "Apple unleashes M1," Apple Newsroom, November 10, 2020, https://www.apple.com/newsroom/2020/11/apple-unleashes-m1/
- "Arm Approved Design Partners," Arm, https://www.arm.com/partners/arm-approved-program/design-partners, accessed September 4, 2025
- "Arm CEO on Intel, Chips, AI, Listing in US," Bloomberg Technology, YouTube, October 22, 2024, www.youtube.com/watch?v=6FnBz8rxWUY
- "Arm Compute Subsystems (CSS) for Client," Arm, https://www.arm.com/products/compute-subsystems-for-client, accessed September 4, 2025
- "Arm CoreLink GIC-700 Generic Interrupt Controller Technical Reference Manual," Arm Developer, https://developer.arm.com/documentation/101516/latest/, accessed September 4, 2025
- "Arm Cortex-A Processor Comparison Table," Arm Developer, https://developer.arm.com/documentation/102826/latest/, accessed September 4, 2025
- "Arm Cortex-M Processor Comparison Table," Arm Developer, https://developer.arm.com/documentation/102787/latest/, accessed September 4, 2025
- "Arm Cortex-R Processor Comparison Table," Arm Developer, https://developer.arm.com/documentation/102788/latest/, accessed September 4, 2025
- "Arm CPU Architecture: A Foundation for Computing Everywhere," Arm, https://www.arm.com/architecture/cpu, accessed September 4, 2025
- "Arm Files Lawsuit Against Qualcomm and Nuvia for Breach of License Agreements and Trademark Infringement," Arm, August 31, 2022, https://newsroom.arm.com/news/arm-files-lawsuit-against-qualcomm-and-nuvia-for-breach-of-license-agreements-and-trademark-infringement

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 542 of 616 PageID #:

- "Arm Flexible Access," Arm, https://www.arm.com/products/flexible-access
- "Arm Holdings plc Q1 2026 Earnings Call," July 30, 2025, https://investors.arm.com/static-files/57a99953-427a-4cfb-ade8-634d3564c008
- "Arm Holdings plc Q3 2025 Earnings Call," February 5, 2025, https://investors.arm.com/static-files/f1190d81-408d-4276-a30c-b27c1ce5a30a
- "Arm Holdings plc Q4 2025 Earnings Call," May 7, 2025, https://investors.arm.com/static-files/181d5019-29bd-4ba5-af29-45888e25c637
- "Arm Holdings plc Q3 FYE24 Results Presentation," Arm Holdings, February 7, 2024, https://investors.arm.com/static-files/c383780b-44f8-42c0-a125-4f6db0b8eb06
- "Arm Holdings plc Q4 FYE24 Results Presentation," Arm Holdings, May 8, 2024, https://investors.arm.com/static-files/4f2fc46b-34a5-4bc5-94af-f13fbc348f0e
- "Arm Holdings Q2 FYE25 Investor Presentation," Arm Holdings, November 6, 2024, https://investors.arm.com/static-files/623fece0-c947-4d'93-94eb-e08e8dfad61b
- "Arm Holdings plc Q4 FYE25 Investor Presentation," Arm Holdings, May 7, 2025, https://investors.arm.com/static-files/6bb3def3-ddce-4588-bf81-b5a718973274
- "Arm Holdings plc, Q1 FYE26 Investor Presentation," Arm Holdings, July 30, 2025, https://investors.arm.com/static-files/dae25601-3e5a-4d40-b9f5-e0149989e553
- "Arm Total Access," Arm, https://www.arm.com/products/licensing/arm-total-access, accessed August 30, 202
- "At Qualcomm Trial, Apple COO Said \$7.50 Per-iPhone Fee Cost Company \$1 Billion a Year," Bloomberg, January 14, 2019, https://fortune.com/2019/01/14/qualcomm-trial-apple-7-50-iphone-fee-billion/
- "Automated Driving | Snapdragon Ride ADAS Tech for Smart Cars," Qualcomm, https://www.qualcomm.com/products/automotive/automated-driving, accessed September 4, 2025
- "AWS and Arm," Arm, https://www.arm.com/markets/computing-infrastructure/cloud-computing/aws#1, accessed August 29, 2025
- "AWS re: Invent 2024 Monday Night Live with Peter DeSantis," AWS, YouTube.com, December 3, 2024, https://www.youtube.com/watch?v=vx36tyJ47ps&t=1041s
- "BoM Analysis: Samsung Galaxy S23 Ultra Costs \$469 to Make," Counterpoint, May 31, 2023, https://www.counterpointresearch.com/insight/bom-analysis-samsung-galaxy-s23-ultra

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 543 of 616 PageID #:

- "CMN-600 Coherent Mesh: Scalable Network for Smart Systems," Arm, https://www.arm.com/products/silicon-ip-system/corelink-interconnect/cmn-600, accessed September 4, 2025
- "CoreSight ELA-600," Arm Developer, https://developer.arm.com/Processors/CoreSight%20ELA-600, accessed September 4, 2025
- "CPU Cortex-A78", Arm https://www.arm.com/products/silicon-ip-cpu/cortex-a/cortex-a78, accessed August 29, 2025
- "Exynos Mobile Processor," Samsung Semiconductor Global, https://semiconductor.samsung.com/processor/mobile-processor/, accessed September 4, 2025
- "Fastest Path to Production Silicon with World-Leading Performance, on Leading-Edge Technology," Arm, https://www.arm.com/products/neoverse-compute-subsystems, accessed September 4, 2025
- "FYE26 Q1 (30-Jun-25) Historical Quarters Datasheet.xlsx," Arm Holdings, July 30, 2025, https://investors.arm.com/financials/quarterly-annual-results
- "Gartner Says Worldwide Semiconductor Revenue Grew 21% in 2024," Gartner, April 10, 2025, https://www.gartner.com/en/newsroom/press-releases/2025-04-10-gartner-says-worldwide-semiconductor-revenue-grew-21-percent-in-2024
- "Glossary," Lenovo, https://www.lenovo.com/us/en/glossary/cpu-core/, accessed September 4, 2025
- "Glossary," Lenovo, https://www.lenovo.com/us/en/glossary/what-is-a-chipset, accessed September 3, 2025
- "Governing Board," RISE, The Linux Foundation Projects, https://riseproject.dev/leadership/, accessed August 26, 2025
- "Here's How Much Apple Was Paying Qualcomm in Royalties," The Motley Fool, January 14, 2019, https://www.nasdaq.com/articles/heres-how-much-apple-was-paying-qualcomm-royalties-2019-01-14
- "How NVIDIA Shipped One Billion RISC-V Cores In 2024," RISC-V International, February 25, 2025, https://riscv.org/blog/2025/02/how-nvidia-shipped-one-billion-risc-v-cores-in-2024/
- "Intel Antitrust Rulings," https://www.amd.com/en/legal/notices/antitrust-ruling.html, accessed September 4, 2025
- "Invention and Intellectual Property [-] Protecting the value of invention," Qualcomm, https://www.qualcomm.com/company/corporate-responsibility/acting-responsibly/public-policy/our-positions/invention-and-intellectual-property, accessed August 28, 2025

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 544 of 616 PageID #:

- "Is Snapdragon an ARM Processor? Understanding the Core Technology Behind Qualcomm's Mobile Chipsets," Indian Institute of Embedded Systems, https://iies.in/blog/is-snapdragon-an-arm-processor-understanding-the-core-technology-behind-qualcomms-mobile-chipsets
- "Keynote: Accelerating Innovation with RISC-V: Past, Present and Future Manju Varma," RISC-V International, YouTube, December 29, 2022, at 1:01, https://www.youtube.com/watch?v=t6\_9pbgg1LI&ab\_channel=RISC-Vinternational
- "Keynote: Unlocking Innovation with RISC-V and Qualcomm Ziad Asghar," RISC-V International, YouTube, November 29, 2023, @ 4:37, https://www.youtube.com/watch?v=9h9LwkPnrUw&ab\_channel=RISC-Vinternational
- "Market Capitalization of Arm Holdings," Companies Market Cap, https://companiesmarketcap.com/arm-holdings/marketcap/, accessed August 29, 2025
- "Market Capitalization of Qualcomm," Companies Market Cap, https://companiesmarketcap.com/qualcomm/marketcap/, accessed August 29, 2025
- "Market Capitalization of Samsung," Companies Market Cap, https://companiesmarketcap.com/samsung/marketcap/, accessed August 29, 2025
- "Missouri and New Jersey Should Repeal Their Prohibitions on Direct-to-Consumer Auto Sales by Manufacturers," Federal Trade Commission, Press Release May 16, 2014, https://www.ftc.gov/news-events/news/press-releases/2014/05/ftc-staff-missouri-new-jersey-should-repeal-their-prohibitions-direct-consumer-auto-sales
- "Neoverse N1 | CPU for Next-Gen Cloud Infrastructure," Arm, https://www.arm.com/products/silicon-ip-cpu/neoverse/neoverse-n1, accessed September 4, 2025
- "Next-Gen flagship Snapdragon chip 'Pakala' & reference device slip in new Qualcomm video," March 21, 2024, https://www.gizmochina.com/2024/03/21/next-gen-snapdragon-pakala-reference-device/
- "NUVIA Raises \$53 Million to Reimagine Silicon Design for the Data Center," Globe News Wire, November 15, 2019, https://www.globenewswire.com/news-release/2019/11/15/1948072/0/en/NUVIA-Raises-53-Million-to-Reimagine-Silicon-Design-for-the-Data-Center.htm
- "Our Businesses," Qualcomm, https://www.qualcomm.com/our-businesses, August 5, 2025
- "PPA analysis overview," Arm Developer, https://developer.arm.com/documentation/102738/0100/Power--performance--and-area-analysis, accessed September 4, 2025

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 545 of 616 PageID #: 27038

- "Q1 2025 Qualcomm Inc. Earnings Call," Qualcomm, February 5, 2025, https://s204.q4cdn.com/645488518/files/doc\_events/2025/Feb/05/QCOM\_Q1FY25EC\_Transcript\_2-5-24.pdf
- "Q2 2025 Qualcomm Inc. Earnings Call," Qualcomm, April 30, 2025, https://s204.q4cdn.com/645488518/files/doc\_events/2025/Apr/30/QCOM\_Q2FY25EC\_Transcript\_5-1-25.pdf
- "Q3 2025 Qualcomm Inc. Earnings Call," Qualcomm, July 30, 2025, https://s204.q4cdn.com/645488518/files/doc\_events/2025/Jul/30/Q3FY25-Earnings-Call-Transcript\_7-30-25\_Final.pdf
- "Q4 2024 Qualcomm Inc. Earnings Call," Qualcomm, November 6, 2024, https://s204.q4cdn.com/645488518/files/doc\_events/2024/Nov/06/QCOM\_Q4FY24EC\_Transcript\_11-7-24.pdf
- "Qualcomm 5G NR Royalty Terms Statement," November 19, 2017, https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/documents/qualcomm-5g-nr-royalty-terms-statement.pdf
- "Qualcomm Announces Third Quarter Fiscal 2025 Results," Qualcomm, July 30, 2025, https://s204.q4cdn.com/645488518/files/doc\_financials/2025/q3/FY2025-3rd-Quarter-Earnings-Release.pdf
- "Qualcomm Cellular IoT Licensing Program," Qualcomm, https://www.qualcomm.com/licensing/cellular-iot-licensing-program, accessed September 4, 2025
- "Qualcomm Completes Acquisition of NUVIA," Qualcomm Press Release, March 15, 2021, https://www.qualcomm.com/news/releases/2021/03/qualcomm-completes-acquisition-nuvia
- "Qualcomm Dominates Premium Android Smartphone Chip Market in Q1 2022," Cellit, May 19, 2022, https://cellit.in/qualcomm-dominates-premium-android-smartphone-chip-market-in-q1-2022/
- "Qualcomm Files GSM Patent Infringement Suit Against Nokia," Qualcomm Press Release, November 6, 2005, https://www.qualcomm.com/news/releases/2005/11/qualcomm-files-gsm-patent-infringement-suit-against-nokia
- "Qualcomm Files Lawsuit Against Motorola," Qualcomm, Mar 5, 1997 https://www.qualcomm.com/news/releases/1997/03/qualcomm-files-lawsuit-against-motorola
- "Qualcomm Implements New Corporate Structure," Qualcomm Press Release, October 1, 2012, https://www.qualcomm.com/news/releases/2012/10/qualcomm-implements-new-corporate-structure

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 546 of 616 PageID #:

- "Qualcomm Inc. Investor Day," Qualcomm, Cristiano Amon, November 16, 2021, https://d1io3yog0oux5.cloudfront.net/\_9145a2f999cf4f4b2b0c08721e637935/qualcomm/db/703/7061/file/QCOM-USQ\_Transcript\_2021-11-16\_Investor%20Day%20(1).pdf
- "Qualcomm Inc., Investor Day," Qualcomm, Cristiano Amon, November 19, 2024, https://s204.q4cdn.com/645488518/files/doc\_events/2024/Nov/19/Qualcomm-Investor-Day-2024 Cristiano StrategicFramework 11-19-24.pdf
- "Qualcomm Incorporated 2009 and Qualcomm Incorporated 2011 Update," Harvard Business School Teaching Notes, May 25, 2011, https://hbsp.harvard.edu/product/711463-PDF-ENG
- "Qualcomm Investor Day 2024: IoT and Automotive Diversification Update," Qualcomm, November 19, 2024, https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/images/company/company/events/investor-day-2024/QCOM-Investor-Day-2024-transcript.pdf
- "Qualcomm Oryon CPU," Qualcomm, https://www.qualcomm.com/products/technology/processors/oryon, accessed August 20, 202
- "Qualcomm Sets New Growth Targets, Showcasing Company's Opportunity as On-Device AI Accelerates Demand for its Technologies," Qualcomm Inc., Press Release, November 19, 2024 https://investor.qualcomm.com/news-events/press-releases/news-details/2024/Qualcomm-Sets-New-Growth-Targets-Showcasing-Companys-Opportunity-as-On-Device-AI-Accelerates-Demand-for-its-Technologies/default.aspx
- "Qualcomm to Acquire Alphawave Semi," Qualcomm, June 9, 2025, https://www.qualcomm.com/news/releases/2025/06/qualcomm-to-acquire-alphawave-semi
- "Qualcomm to Bring RISC-V Based Wearable Platform to Wear OS by Google," Qualcomm, October 17, 2023, https://www.qualcomm.com/news/releases/2023/10/qualcomm-to-bring-risc-v-based-wearable-platform-to--wear-os-by-
- "Quintauris: Accelerating RISC-V Innovation for next-gen Hardware," November 4, 2024, https://www.quintauris.com/quintauris-accelerating-risc-v-innovation-for-next-gen-hardware
- "RISC-V International Governance," RISC-V, https://riscv.org/about/board/, accessed August 13, 2025
- "Samsung Apologizes for Falling Behind in AI Chips Race," Wall Street Journal, October 8, 2024, https://www.wsj.com/tech/samsungs-chip-technologies-fall-behind-in-early-innings-of-aigame-67f0f9af
- "Samsung Electronics Co. Ltd.," Wall Street Journal, https://www.wsj.com/market-data/quotes/kr/xkrx/005930, accessed August 26, 2025
- "SCO Sends Warning Letters To Linux Users," InformationWeek, December 22, 2003, https://www.informationweek.com/it-leadership/sco-sends-warning-letters-to-linux-users

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 547 of 616 PageID #:

- "Silicon Design Reimagined," Nuvia, Inc., January 15, 2021, https://web.archive.org/web/20210115193713/https://nuviainc.com/
- "Snapdragon Summit," SixFiveMedia, https://www.sixfivemedia.com/our-events/snapdragon-summit, accessed September 4, 2025
- "Supreme Court Amicus Brief Regarding Morgan Stanley Capital Group Inc. v. Public Utility District No. 1 of Snohomish County, Washington," December 2007, https://appext.hks.harvard.edu/publications/getFile.aspx?Id=451
- "The 5 Best Features of the Meta Quest 3," Qualcomm, January 12, 2024, https://www.qualcomm.com/snapdragon/news/the-5-best-features-of-the-meta-quest-3
- "The Largest Companies by Market Cap in August 2025," The Motley Fool, August 4, 2025 https://www.fool.com/research/largest-companies-by-market-cap/
- "The Value of Making Concessions In Negotiation," Red Bear, November 12, 2024, https://www.redbearnegotiation.com/blog/making-concessions-in-negotiation
- "Too Good to Lose: America's Stake in Intel," Center for Strategic and International Studies, November 12, 2024, https://www.csis.org/analysis/too-good-lose-americas-stake-intel
- "Top 10 Semiconductor Foundries in the World," Cytech Systems, March 13, 2024 https://www.cytechsystems.com/news/top-10-semiconductor-foundries
- "Trial Sheds Light on Q'comm Patent Holdings, Royalty Rates," EETimes, January 21, 2019, https://www.eetimes.com/trial-sheds-light-on-qcomm-patent-holdings-royalty-rates
- "Understanding Android," Android, https://www.android.com/everyone/facts/, accessed August 29, 2025
- "Virtual Reality: Transforming the way we experience reality," Qualcomm, https://www.qualcomm.com/products/mobile/snapdragon/xr-vr-ar/virtual-reality-vr
- "What are IP Cores in Semiconductor Design: Types & Advantages," Techovedas, April 21, 2024, https://techovedas.com/what-are-ip-cores-in-semiconductor-design-types-advantages/
- "What is Windows on Arm (WoA)?" Arm, https://www.arm.com/glossary/windows-on-arm, accessed September 4, 2025
- "Why RISC-V is Inevitable, Calista Redmond, RISC-V International," RISC-V International, April 6, 2023, at 8:33, https://www.youtube.com/watch?v=ktjSvlelKPk&ab\_channel=RISC-VInternational
- "XR/VR/AR Reimagining reality as we know it," Qualcomm, https://www.qualcomm.com/products/mobile/snapdragon/xr-vr-ar, accessed September 4, 2025

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 548 of 616 PageID #:

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

"Your Negotiation Challenges," Karrass, June 17, 2025, https://www.karrass.com/blog/your-negotiation-challenges

Abner Li, "Report: Arm cancels Qualcomm's instruction set, IP license for chip design," 9to5Google, October 22, 2024, https://9to5google.com/2024/10/22/report-qualcomm-arm-chip-design/

Aditya Bedi, "The foundation of Total Compute: First Armv9 Cortex CPUs," Arm Community, May 25, 2021 https://community.arm.com/arm-community-blogs/b/architectures-and-processors-blog/posts/first-armv9-cpu-cores

Akash Palkhiwala, "Qualcomm Investor Day 2024 Financial Update Presentation," Qualcomm, November 19, 2024, https://www.qualcomm.com/content/dam/qcomm-martech/dm-assets/images/company/company/events/investor-day-2024/Qualcomm-Investor-Day-2024\_Akash\_FinancialUpdate.pdf

Anand Lal Shimpi, "The ARM Diaries, Part 1: How ARM's Business Model Works," AnandTech, June 28, 2013,

https://web.archive.org/web/20130701165406/http://www.anandtech.com/show/7112/the-arm-diaries-part-1-how-arms-business-model-works/2

Andy Patrizio, "Qualcomm makes it official; no more data center chip," Network World, December 12, 2018, https://www.networkworld.com/article/966778/qualcomm-makes-it-official-no-more-data-center-chip.html

Anton Shilov, "Arm-Based CPUs Could Double Notebook PC Market Share by 2027: Report," Tom's Hardware, April 11, 2023, https://www.tomshardware.com/news/arm-based-cpus-set-to-double-notebook-pc-market-share-by-2027

Arjun Kharpal, "Qualcomm to launch data center processors that link to Nvidia chips," CNBC, May 19, 2025, https://www.cnbc.com/2025/05/19/qualcomm-to-launch-data-center-processors-that-link-to-nvidia-chips.html

Arm, "The ARM processor business model,"

https://developer.arm.com/documentation/dht0001/a/architectures--processors--and-devices/the-arm-processor-business-model, accessed August 22, 2025

Ben Schoon, "Google Pixel grows in US, settling into top 4 spot ahead of Pixel 10 launch," 9to5google, July 28, 2025, https://9to5google.com/2025/07/28/google-pixel-us-market-share-q2-2025/

Ben Schoon, "Qualcomm confirms November 15–17 event to reveal its next Snapdragon flagship," 9to5Google, July 19, 2022, https://9to5google.com/2022/07/19/snapdragon-summit-2022

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 549 of 616 PageID #:

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Ben Schoon, "Qualcomm is suing Transsion, the largest smartphone maker that doesn't use Snapdragon," 9to5Google, July 12, 2024, https://9to5google.com/2024/07/12/qualcomm-transsion-lawsuit-report

Beth Kindig, "Arm Stock: AI Chip Favorite Is Overpriced," Forbes, Mar 21, 2024, https://www.forbes.com/sites/bethkindig/2024/03/21/arm-stock-ai-chip-favorite-is-overpriced/

Briana Watson, "SOC vs CPU: Breaking Down the Differences and their Optimal Usage," November 15, 2023, https://www.totalphase.com/blog/2023/11/soc-vs-cpu-breaking-down-the-differences-and-their-optimal-usage/

Charles Martin and Malcom Owen, "The history—and triumph —of Arm and Apple Silicon", Apple Insider, April 22, 2024, https://appleinsider.com/articles/24/04/22/the-history----and-triumph----of-arm-and-apple-silicon

Chris Williams, "Arm shells Qualcomm's Snapdragon launch party with latest salvo in license war," The Register, November 16, 2022, https://www.theregister.com/2022/11/16/arm\_qualcomm\_licensing\_latest/

Chris Williams, "Arm sues Qualcomm over custom Nuvia CPU cores, wants designs destroyed," The Register, August 31, 2022, https://www.theregister.com/2022/08/31/arm\_sues\_qualcomm/

Chris Williams, "Up in arms! Arm kills off its anti-RISC-V smear site after own staff revolt," The Register, July 10, 2018, https://www.theregister.com/2018/07/10/arm\_riscv\_website/

Congressional Research Service, "Antitrust Law: An Introduction," May 1, 2025, https://www.congress.gov/crs\_external\_products/IF/PDF/IF11234/IF11234.8.pdf

David Brash, "The ARMv8-A architecture and its ongoing development," Arm Community, December 2, 2014 https://community.arm.com/arm-community-blogs/b/architectures-and-processors-blog/posts/the-armv8-a-architecture-and-its-ongoing-development

David Manners, "Qualcomm data centre business withers away," Electronics Weekly, December 11, 2018, https://www.electronicsweekly.com/news/business/qualcomm-datacentre-business-withers-away-2018-12/

Deepa Prahalad, "Why Trust Matters More Than Ever for Brands," Harvard Business Review, December 8, 2011 https://hbr.org/2011/12/why-trust-matters-more-than-ev

Dominic Rushe, "Myspace sold for \$35m in spectacular fall from \$12bn heyday," The Guardian, June 30, 2011, https://www.theguardian.com/technology/2011/jun/30/myspace-sold-35-millionnews

Don Fancher, Jennifer Lee, and Debbie McCormack, "Trust: A Critical Asset," Harvard Law School Forum on Corporate Governance, June 17, 2021, https://corpgov.law.harvard.edu/2021/06/17/trust-a-critical-asset/

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 550 of 616 PageID #:

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Dylan Patel, "Arm's Nuclear Option – Qualcomm Must Cancel Next-Generation Products If Arm Succeeds," SemiAnalysis, November 16, 2022, https://semianalysis.com/2022/11/16/arms-nuclear-option-qualcomm-must/

Dylan Patel, Myron Xie, Afzal Ahmad and Daniel Nishball, "Arm and a Leg: Arm's Quest To Extract Their True Value," SemiAnalysis, September 14, 2023, https://semianalysis.com/2023/09/14/arm-and-a-leg-arms-quest-to-extract/

Exchange Rates, "British Pound to US Dollar History: 2019," https://www.exchangerates.org.uk/GBP-USD-spot-exchange-rates-history-2019.html

Florian Mueller, "BREAKING: Qualcomm settles with China's Transsion (Africa's smartphone market leader): Indian patent lawsuit withdrawn," ip fray, January 16, 2025, https://ipfray.com/breaking-qualcomm-settles-with-chinas-transsion-africas-smartphone-market-leader-indian-patent-lawsuit-withdrawn/

Francisco Cheng, "What is RISC-V, and why we're unlocking its potential," Qualcomm, September 8, 2023, https://www.qualcomm.com/news/onq/2023/09/what-is-risc-v-and-why-were-unlocking-its-potential

Greg Tang, "Intel and the x86 Architecture: A Legal Perspective," The Harvard Journal of Law & Technology, January 4, 2011, https://jolt.law.harvard.edu/digest/intel-and-the-x86-architecture-a-legal-perspective

Gyana Swain, "Arm secures Meta as first customer in chip push, challenging industry giants," ComputerWorld, February 14, 2025, https://www.computerworld.com/article/3825123/arm-secures-meta-as-first-customer-in-chip-push-challenging-industry-giants.html.

Haroun Adamu, "Did you know: Samsung makes a lot of money from iPhones," Android Authority, June 11, 2025, https://www.androidauthority.com/did-you-know-samsung-apple-partnership-3426411/

Herbert Hovenkamp, "Antitrust Market Definition: the Hypothetical Monopolist and Brown Shoe," Network Law Review, April 4, 2024, https://www.networklawreview.org/hovenkamp-market-definition/

Ian King, "Arm to Scrap Qualcomm Chip Design License in Feud Escalation," Bloomberg, October 22, 2024 (updated on October 23, 2024),

https://www.bloomberg.com/news/articles/2024-10-23/arm-to-cancel-qualcomm-chip-design-license-in-escalation-of-feud

Ian King, "Qualcomm Plans Exit From Server Chips," Bloomberg, May 7, 2018 https://www.bloomberg.com/news/articles/2018-05-07/qualcomm-is-said-to-plan-exit-from-server-chips-amid-cost-cuts

Imogen Beech, "6 real-life coopetition examples," Breezy, September 6, 2023, https://breezy.io/blog/coopetition-examples

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 551 of 616 PageID #:

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Jeffrey Mervis, "To beat China, new U.S. law offers billions for microchip research and training," Science, September 6, 2022, https://www.science.org/content/article/beat-china-new-u-s-law-offers-billions-microchip-research-and-training

Jessica Coacci, "Here's the one-page memo Warren Buffett sent to his managers every two years for over 25 years," Yahoo! Finance, August 6, 2025 https://finance.yahoo.com/news/one-page-memo-warren-buffett-140107224.html

Jim McGregor, "Arm Squares Off Against Qualcomm: Day 2," December 18, 2024, https://www.forbes.com/sites/tiriasresearch/2024/12/18/arm-squares-off-against-qualcomm-day-2/

Joseph Calamia, Explained: The Physics-Defying Flight of the Bumblebee, Live Science, February 25, 2011 https://www.livescience.com/33075-how-bees-fly.html

Jowi Morales, "Qualcomm claims it owns 10% of U.S. Windows PC retail market for devices priced \$800 and up," Tom's Hardware, February 6, 2025, https://www.tomshardware.com/tech-industry/qualcomm-claims-it-owns-10-percent-of-u-s-windows-pc-retail-market-for-devices-priced-usd800-and-up

Kelsey Ziser, "MediaTek and Qualcomm's rivalry heats up in 5G smartphone market – Omdia," Light Reading, July 16, 2024, https://www.lightreading.com/smartphones-devices/mediatek-and-qualcomm-s-rivalry-heats-up-in-5g-smartphone-market-omdia

Khadija Khartit, "When Does It Make Sense for a Company to Pursue Vertical Integration?" Investopedia, February 6, 2025, https://www.investopedia.com/ask/answers/012715/when-does-it-makes-sense-company-pursue-vertical-integration.asp

Linley Gwennap, "Editorial: Arm's No-Win Legal Fight," Tech Insights, https://www.techinsights.com/blog/editorial-arms-no-win-legal-fight, accessed August 29, 2025

MacroTrends, "QUALCOMM Research and Development Expenses 2010-2025," https://www.macrotrends.net/stocks/charts/QCOM/qualcomm/research-development-expenses

MacroTrends, "QUALCOMM Revenue 2010-2025," https://www.macrotrends.net/stocks/charts/QCOM/qualcomm/revenue

Majeed Kamran, "Qualcomm's Alphawave Acquisition Targets Data Centers and AI, But What's Next?" EE Times, June 9, 2025, https://www.eetimes.com/qualcomms-alphawave-acquisition-targets-data-centers-and-ai-but-whats-next/

Mark Liu, "x86 Server CPUs Remain Market Mainstream, 7nm Platform May Help AMD to Increase Market Share, Says TrendForce," TrendForce, November 28, 2018, https://www.trendforce.com/presscenter/news/20181128-10076.html

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 552 of 616 PageID #:

#### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY

#### SUBJECT TO PROTECTIVE ORDER

Matthew Garrahan, Tim Bradshaw, and David Keohane, "Arm to launch its own chip in move that could upend semiconductor Industry," Financial Times, February 13, 2025, https://www.ft.com/content/95367b2b-2aa7-4a06-bdd3-0463c9bad008

Max Cherney, "Exclusive: Arm aims to capture 50% of PC market in five years, CEO says," Reuters, June 3, 2024, https://www.reuters.com/technology/arm-aims-capture-50-pc-market-five-years-ceo-says-2024-06-03/

Melissa Riofrio, "Surface Pro X revealed: Thin, light, and supercharged with a custom SQ1 ARM chip," PC World, October 2, 2019, https://www.pcworld.com/article/398146/microsofts-surface-pro-x-is-thin-light-and-supercharged-with-a-custom-sq1-arm-chip.html

Mike Freeman, "Qualcomm laying off more workers in San Diego, North Carolina to cut costs," The San Diego Union-Tribune, December 8, 2018,

https://www.sandiegouniontribune.com/2018/12/07/qualcomm-laying-off-more-workers-in-sandiego-north-carolina-to-cut-costs/

Mike Wehner, "AIM is officially dead, and your childhood means nothing," Yahoo!News, October 6, 2017, https://www.yahoo.com/news/aim-officially-dead-childhood-means-nothing-174900787.html

Mike Wuerthele, "Apple & ARM's iPhone & Mac chip partnership will continue for decades," Apple Insider, September 5, 2023, https://appleinsider.com/articles/23/09/05/apple-arms-iphone-mac-chip-partnership-will-continue-for-decades

Nikita Kumari, "From Idea to Silicon: How Custom Chip Design Drives Innovation," BISinfotech, July 16, 2025, https://www.bisinfotech.com/from-idea-to-silicon-how-custom-chip-design-drives-innovation

Patent Dispute Report: 2024 Mid-Year Report," Unified Patents, July 22, 2024, https://www.unifiedpatents.com/insights/2024/7/22/patent-dispute-report-2024-mid-year-report

Paul Alcorn, "Intel and AMD are unlikely allies in new x86 ecosystem advisory group," Tom's Hardware, October 15, 2024, https://www.tomshardware.com/pc-components/cpus/intel-and-amd-forge-x86-ecosystem-advisory-group-that-aims-to-ensure-a-unified-isa-moving-forward

Paul Williamson, "Arm Continues to Accelerate IoT Software Development with New Partnerships," Arm Newsroom, November 7, 2022, https://newsroom.arm.com/news/arm-continues-to-accelerate-iot-software-development-with-new-partnerships

Phill Powell, "Types of central processing units (CPUs)," https://www.ibm.com/think/topics/central-processing-unit-types

Qualcomm Financial Summary downloaded from LSEG Data & Analytics

Rajeev Dhir, "Negotiation: Stages and Strategies," Investopedia, June 04, 2024, https://www.investopedia.com/terms/n/negotiation.asp

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 553 of 616 PageID #: 27046

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Rajesh Pandey, "Qualcomm wants Android device makers to pay even more for its next flagship chip," Yahoo Tech, December 2, 2024, https://tech.yahoo.com/phones/articles/qualcomm-wants-android-device-makers-092330024.html

Rashika Singh, "Qualcomm shares slide as Apple modem shift, tariffs raise growth concerns," Yahoo Finance, July 31, 2025, https://finance.yahoo.com/news/qualcomm-shares-slide-apple-modem-085843911.html

Robert Triggs, "Arm vs x86: Instruction sets, architecture, and all key differences explained", Android Authority, December 20, 2023 https://www.androidauthority.com/arm-vs-x86-key-differences-explained-568718/

Roddy Urquhart, "Systems & Design: Opinion, Semiconductor Engineering," March 29, 2021, https://semiengineering.com/what-does-risc-v-stand-for/

Ryan Bourne, "Is This Time Different? Schumpeter, the Tech Giants, and Monopoly Fatalism," Cato Institute, June 18, 2019 https://www.cato.org/publications/policy-analysis/time-different-schumpeter-tech-giants-monopoly-fatalism

Saul Sugarman, "So I visited the last Blockbuster on the planet, and all I got was this t-shirt," The Bold Italic, December 8, 2023, https://thebolditalic.com/so-i-visited-the-last-blockbuster-on-the-planet-and-all-i-got-was-this-t-shirt-ffc6d2ed414d

Sebastian Moss, "Qualcomm announces data center CPUs, will support Nvidia's NVLink Fusion," Data Center Dynamics, May 20, 2025 https://www.datacenterdynamics.com/en/news/qualcomm-announces-data-center-cpus-will-support-nvidias-nvlink-fusion/

Semiconductor Industry Association, "2022 State of the U.S. Semiconductor Industry," November 2022, https://www.semiconductors.org/wp-content/uploads/2022/11/SIA\_State-of-Industry-Report\_Nov-2022.pdf

Shapiro, Carl, "Competition and the Small Business Landscape: Fair Competition and a Level Playing Field," Opening Statement of Professor Carl Shapiro House Committee on Small Business March 1 2022 https://www.congress.gov/117/meeting/house/114436/witnesses/HHRG-117-SM00-Wstate-ShapiroC-20220301.pdf

Simon Sharwood, "Arm gives up on killing off Qualcomm's vital chip license," The Register, February 6, 2025, https://www.theregister.com/2025/02/06/arm\_qualcomm\_nuvia/

Skye Jacobs, "Former Intel engineers from AheadComputing to break CPU performance limits with RISC-V design," TechSpot, June 12, 2025, https://www.techspot.com/news/108281-former-intel-engineers-form-aheadcomputing-break-cpu-performance.html

Stan Gibson, "AWS ARM-based chips could shift microprocessor market," TechTarget, April 28, 2020, https://www.techtarget.com/searchaws/feature/AWS-ARM-based-chips-could-shift-microprocessor-market

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 554 of 616 PageID #:

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Stephen Nellis and Jane Lee, "Arm sues Qualcomm, aiming to unwind Qualcomm's \$1.4 bln Nuvia purchase," Reuters, September 1, 2022, https://www.reuters.com/legal/chips-tech-firm-arm-sues-qualcomm-nuvia-breach-license-trademark-2022-08-31

Stephen Nellis, "Apple inks new long-term deal with Arm for chip technology, according to filing," Reuters, September 5, 2023 https://www.reuters.com/technology/apple-inks-new-long-term-deal-with-arm-chip-technology-filing-2023-09-05/

Stephen Shankland, "SCO targets Linux customers," CNET, May 14, 2003, https://www.cnet.com/tech/services-and-software/sco-targets-linux-customers/

Steve McDowell, "Qualcomm's Game-Changing Move Into Automotive And Industrial IoT," Forbes, January 28, 2025, https://www.forbes.com/sites/stevemcdowell/2025/01/28/qualcomms-game-changing-move-into-automotive-and-industrial-iot/

Steve Mollman, "Blockbuster 'laughed us out of the room,' recalls Netflix cofounder on trying to sell company now worth over \$150 billion for \$50 million," Fortune, October 22, 2024, https://finance.yahoo.com/news/blockbuster-laughed-us-room-recalls-174322621.html

Swagath Bandhakavi, "FTC ends legal challenge against Microsoft's \$69bn Activision Blizzard acquisition," Tech Monitor, May 23, 2025 https://www.techmonitor.ai/digital-economy/big-tech/ftc-microsoft-activision-blizzard-deal

Timothy Green, "Qualcomm is Going After Intel and AMD in This Lucrative Market," January 16, 2025, https://finance.yahoo.com/news/qualcomm-going-intel-amd-lucrative-101500205.html

Tobias Mann, "Jury spares Qualcomm's AI PC ambitions, but Arm eyes a retrial," The Register, December 23, 2024, https://www.theregister.com/2024/12/23/qualcomm\_arm\_trial/

Tom Simonite, "With Its Own Chips, Apple Aims to Define the Future of PCs," Wired, Nov 10, 2020, https://www.wired.com/story/own-chips-apple-aims-define-future-pcs/

- U.S. Department of Justice & The Federal Trade Commission, "Vertical Merger Guidelines," June 30, 2020 (now withdrawn), https://www.ftc.gov/system/files/documents/reports/us-department-justice-federal-trade-commission-vertical-merger-guidelines/vertical\_merger\_guidelines\_6-30-20.pdf
- U.S. Department of Justice & The Federal Trade Commission, Commentary on the Horizontal Merger Guidelines, March 2006, https://www.justice.gov/d9/383663.pdf
- U.S. Department of Justice & The Federal Trade Commission, Merger Guidelines, December 18, 2023, https://www.justice.gov/d9/2023-12/2023%20Merger%20Guidelines.pdf

Victor Keegan, "Will MySpace ever lose its monopoly?" The Guardian, February 8, 2007, https://www.theguardian.com/technology/2007/feb/08/business.comment

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 555 of 616 PageID #: 27048

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Wayne Ma & Cory Weinberg, "How a Lopsided Apple Deal Got Under Arm's Skin," The Information, November 29, 2023, https://www.theinformation.com/articles/how-a-lopsided-apple-deal-got-under-arms-skin

Will Abbey, "Flexible Licensing, Boundless Innovation: How Arm is Accelerating Partner Success," Arm, November 1, 2023, https://newsroom.arm.com/blog/arm-licensing-models

Young Hyun Jun, "Dearvalued [sic] customers, investors, and employees of Samsung Electronics," Samsung, October 8, 2024, https://www.samsung.com/global/ir/reports-disclosures/public-disclosure-view.84206/

Zac Hall, "Apple makes up less than 5% of Arm's revenue, and Arm can't do anything about it," 9to5mac, November 29, 2023, https://9to5mac.com/2023/11/29/apple-arm-licensing-revenue/

# Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 556 of 616 PageID #: 27049 HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY

SUBJECT TO PROTECTIVE ORDER

APPENDIX C: TRANSCRIPT OF INTERVIEW OF RENE HAAS, ARM'S CEO, OCTOBER 22, 2024

Source: "Arm CEO on Intel, Chips, AI, Listing in US," Bloomberg Technology, YouTube, October 22, 2024, <a href="https://www.youtube.com/watch?v=6FnBz8rxWUY">https://www.youtube.com/watch?v=6FnBz8rxWUY</a>

Peter Elstrom (Executive Editor Technology Bloomberg, PE): That's why I have you. And thank you all for joining us. We have a lot of questions for you, so we'll go ahead and get started. First, I begin. You are not just the of Arm you're now a podcaster. You began in your spare time I guess. You began a new podcast is called 'Tech Unheard' and your first interview was was with Jensen Huang. That's right which I gave a listen to. First of all, what gave you the idea to start a podcast? And secondly, how do you find the time as CEO to do something like that too?

Rene Haas (Arm CEO): Yeah. So first off, thank you again for for having me here. I'm an amateur at this, so you don't have to worry about your day job as far as podcasting goes. You know, we were talking with some of our board members about how to use a unique medium to talk to two leaders, talk about the Arm story. And one of the ideas that was suggested was was a podcast. I was a radio disc jockey actually spinning records in university. So, I had a little bit of experience and aspirations to do that kind of work early in my life. So, in talking with some folks, you know, around the team, we said, you know, let's let's try this and let's do something a little bit more innovative and talk to other leaders and give them a perspective of maybe a conversation that they may not naturally have with someone who's professional like you are. So, yeah, we kicked it off. Please listen, it's on Apple Music, Spotify and Jensen was my first guest.

Peter Elstrom: Great, Great. Congratulations. And, you know, in terms of the business Arm was acquired by SoftBank for about three two billion dollars. At some point, SoftBank agreed to sell it for about 40 billion dollars. That deal didn't go through, of course, NVIDIA was supposed to buy it. That deal didn't go through. Now, you went public just over a year ago, companies worth roughly 160 billion dollars, which seems like a successful IPO. But could you talk to us about what the business model for Arm has been and how it's evolved over time, over that period of time? And especially, what's the strategy going forward?

Rene Haas: Yeah, well, thank you for the you know, for the nice words. 30-year-old plus company. Our business model for most of our time on earth, if you will, was very horizontal in that we had a licensing model. We develop IP. Our products are primarily CPUs. The business model is very horizontal in nature, meaning that we designed a very general-purpose product,

very power efficient product, and then license it to customers independent of the vertical market. And in other words, we didn't really target a certain vertical. I took over the core IP business right after SoftBank bought Arm and we pivoted to a more of a vertical approach, meaning that we now have products very specific for the data center, very specific for automotive, very specific for IoT. Smartphones we were born. And that diversification really allowed us to expand into many new markets with brand new products. SoftBank buying Arm in 2016 allowed us to invest in those new areas. So fast forward the result. What you're seeing now in terms of performance is that strategy. You know, going forward as we think about the next number of years, what we're seeing in the marketplace is a need for more solutions. Chips are getting increasingly more difficult to build. It takes a long time to design a chip, takes even longer to fabricate the chip. So, the more that Arm can do to help customers get to market faster is helpful. So, we're now developing solutions, what we call "CSSs" that get people to market sooner and allow them to get more profitably in a sooner way.

Peter Elstrom: Mm hmm. Okay. I want to talk about AI. And in particular, the opportunities in AI. There is some debate, as we've referred to, I think, in a couple of these sessions about whether there's a bubble in AI. And I I'm going to assume that you think that there are real opportunities there. But can you talk about what Arm's role is there and how you see the company evolving to take advantage of those opportunities?

Rene Haas: So, one of the most unique things about our company is the fact that the device that we build, the CPU, we estimate that 70% of the world's population touches Arm in some way. We're in security cameras, automobiles, PCs, smartphones, data center. And what that means is every workload, whether it's an application, an operating system or AI, runs through Arm in some way. So, that means AI. is going to run on Arm, period. And we're the only company on the planet that can run those AI workloads from the smallest devices on the edge. Again, a wearable, glasses, watch, phone to the data center. So, for us, AI is a gigantic opportunity in terms of growth going forward because AI is going to be everywhere. And as far as a bubble goes, I just don't ascribe to that. I look at things such as when people say, Gosh, is it overhyped? Or the stocks have gone down last quarter. That's almost like saying should I short AT&T in 2000 because the Internet is not going to happen. Or if Ford was a stock in 1907, would I short them? Because the automobile is not going to happen. It's just not. I mean, AI is we've seen such

advancement across the AI in the last couple of years that the amount of innovation that it's going to drive is just going to be incredible.

Peter Elstrom: Okay. Okay. The chip company that probably has taken the most opportunity that has been able to capitalize the most on AI so far is NVIDIA. Chip maker in your space. They now have a near monopoly in terms of the highest end AI accelerators. How do you see that evolving in the future? And are there opportunities for Arm in particular to be able to play in that space and drive real revenue from?

Rene Haas: Yeah. So, we're there already. NVIDIA's most advanced chip called the GB200, which is Grace Blackwell. Microsoft just announced that they're going to be deploying Grace Blackwell, the most advanced NVIDIA chip in their data centers that uses the Arm CPU. So, Grace is the Arm CPU. Blackwell Is the Nvidia GPU. So, Arm is there already. So, we are going to play in the most advanced data centers using AI. Arm, Arm will be there. I think what's most exciting for us, as I mentioned though, is the fact that not only will we be in the data center for training these algorithms, ultimately the training has to be transferred into inference, and training is the teacher inference is the student. Inference is actually running the workload and inference actually running that AI agent that's going to happen in the data center, that's going to happen in the car, that's going to happen on your watch. That's going to happen in glasses, that's going to happen in phones, and everywhere it happens, it's going to run on Arm. So, it's going to be a gigantic opportunity for us. The data center is just one place.

Peter Elstrom: Mm hmm. Okay. So, you see Arm having opportunities kind of from the beginning to the end.

Rene Haas: More than, more than opportunities. The agents will run locally. And the reason for that is you'll have a hybrid situation where some of that will run in the cloud. Some of it will run in your local device. Again, your glasses, your wearable, your phone. But locally, what you'll be able to add is security, things that can make sure it's private to you that not all your data is being passed to the cloud and vice versa. So yeah for for Arm I think it's going to be just an amazingly large opportunity.

Peter Elstrom: Okay. As we were talking about before, I just moved from Japan where we spent a lot of time looking at SoftBank and especially Masayoshi Son's ambitions. We've written stories

about how SoftBank is looking at ways to enter the AI chip market and particularly to compete with NVIDIA, quite directly in GPUs. He has a secret plan "Izanagi" that we've written about in the past. How does Arm isn't still 90% owned by SoftBank? How does Arm fit into that equation?

Rene Haas: Yeah, so no, no product launch announcements today. So, nothing I can say about products coming out that you've written about. I can say that on the SoftBank board member, I do advisory work for SoftBank. I talked to Masa all the time. It's no secret that he is a big believer in AI has been for quite some time. He's talked about it actually, probably as long as any of the folks out there. I think his vision in terms of where it's all coming together now, you can start to see the pieces of it as I just described. Where does Arm fit - all those AI workloads are going to run on Arm somewhere somehow. So that's the reason that we spend a lot of time talking to SoftBank about the future.

Peter Elstrom: Okay. Okay. Earlier we had the ASML CEO on and he was talking about some of the challenges that they're facing in the market. They surprised investors last week as we talked about. And it does seem that there's a little bit of a disconnect in the market where many people see opportunities. ASML reported that their orders were about half what analysts had thought they were going to be. Seems there are certain areas of the chip industry that are struggling quite a bit. And on the other end you have Sam Altman talking about how we need more capacity in the chip industry. We need billions of dollars, maybe trillions of dollars of investment. What is the disconnect and how does that get resolved?

Rene Haas: Yeah, so there's a lot to unpack there. Where Arm plays, as I mentioned because 70 % of the world's population uses Arm. And I think 300 billion chips have shipped since we were started that have Arm inside. And every year about 30 billion chips. We have a unique view into the industry because just about every digital device uses Arm. There are some markets that aren't accelerating as fast as others and candidly those are the ones that aren't using AI in a very large way. But in areas that can use AI and will use AI, people can't go fast enough. And I'll give you an example. Many of the hardware devices that are being introduced today were designed two or three years ago. That means the chips were designed two or three years ago. The chips that are going in your phones or your wearables. Those were all invented before ChatGPT was released

or before Lamo was released. So what we're seeing on one end of the industry is just a rush to develop more and more chips that have this AI capability. Now it takes time. You know, chips aren't built overnight. In fact, it takes from the time we engage a partner, you know, two or three years at least until that comes to market. So I think you'll see some of these new products coming out. I think what Sam is talking about is just generally the ceiling to get to AGI. Artificial general intelligence requires more compute. And the more compute you have, the better the models get. So, I see. I see both. But generally speaking, I'm pretty optimistic about the growth for our industry.

Peter Elstrom: Okay. Okay. We were talking about this a bit before. One of the gating factors is making sure that you have chip manufacturers who can make the most advanced chips. TSMC seems to be gaining market share right now as a couple of the key competitors struggle, Intel in particular. And Samsung also has been struggling a bit. They're both trying to move into the foundry business a bit in competition with TSMC. What what are the dangers around having TSMC garner so much market share in foundry? And is it good for the industry or would it be better if there's a more diversified manufacturing base for the industry?

Rene Haas: Yeah, TSMC is an amazing company. They've just done so much for the industry relative to the innovation, how they work with partners, etc. etc. If you remove semiconductor manufacturing or foundry for a moment and just step back and say, is it healthy for any industry to have a one dominant supplier and then add on top of that a dominant supplier that's largely concentrated in one part of the world? Not, not really. So as a result, I think it's necessary just in terms of diversity of supply base, to have more and more advanced manufacturing and geographic diversity. Fabs in the United States. Fabs in Europe. Fabs in India. Fabs in Saudi Arabia. I think over time, we're going to see not only more suppliers, but geographic diversity as well.

Peter Elstrom: Okay. Governments obviously are investing a lot in that very question. You're seeing the United States do it. You're seeing Europe do it. Japan has spent a lot of money on it, too. Do you think that's making progress at this point? Do you see light at the end of that tunnel?

Rene Haas: It's the capital expenditures required for these fabs are enormous. TSMC, Intel, Samsung, I think their CapEx is anywhere between 30 to 35 billion dollars a year in new

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 562 of 616 PageID #:

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

factories. And if you start looking at the revenues that these companies produce, you start very quickly looking at, oh my gosh, that is a lot of money to invest. Now, on one hand, you can look at it and say, well, the demand will be there, AI, etc., etc.. But it doesn't take much in terms of a year slowdown in demand and the companies have a really negative financial outcome. So, yes, governments have been involved, I think should be involved in my opinion. We saw in the U.S. for the very first time a policy act around CHIPS Act to put funding into the fabs, which I generally a big supporter of. I think it's necessary.

Peter Elstrom: Okay. Let's talk a little bit more about Intel and their struggles. You grew up in a chip industry where Intel was really the dominant player, kind of set the pace for technology evolution over time. Now we're openly talking about whether Intel is going to be broken up, maybe sold into pieces. What kind of opportunities are there for Arm within that space as Intel goes through these struggles?

Rene Haas: Yes, we work very closely with Intel. It's a bit of strange bedfellows. Many folks would consider Arm and Intel to be natural competitors on the product space. But what's very important to us, back to this discussion around supply base is that "Intel Foundry Services" IFS is successful. We do a lot of work with Intel as we do with Samsung and TSMC to ensure that our products can be manufactured there. We work very closely with their engineers to ensure that the leading edge technology can can run on Arm. So, we want to see Intel successful and we want to see IFS successful. I think it might be strange to hear the Arm CEO say that, but we want Intel manufacturing to be successful.

Peter Elstrom: Okay. Bloomberg reported that Arm took a pretty close look at buying a part of Intel. Would you like to comment?

Rene Haas: Nothing I can say on that one.

Peter Elstrom: "Okay. All right. Thank you. Thank you. I wanted to turn. You talked about are moving up the value stack kind of moving beyond its traditional place in the industry. And as you have moved up the value chain, you've gotten closer to doing what some of your customers do."

Rene Haas: "Right."

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 563 of 616 PageID #: 27056

### HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

Peter Elstrom: "Getting closer to being able to do these complete designs. And. Yes. It speeds up innovation, as you were alluding to, but it also puts you in closer competition with some of your customers. You have a lawsuit with Qualcomm in particular."

Rene Haas: "Yeah."

Peter Elstrom: "Isn't it in both companies interest to settle that and to resolve the legal dispute at this point? Or what would you say?"

Rene Haas: "These are these are tough questions. It's a good thing I'm a podcaster, so I know what's coming. You know, first thing on, competing with our customers, you know, it's rather complicated because if you look at some of our customers, our customers are Amazon. Our customers are Microsoft. Our customers are Apple. Our customers are Tesla. They all build chips using Arm. I'm not going to build an electric car. I'm not going to build a phone. I'm not going to build a data center. So, to look at the value chain relative to who builds chips, relative to whether you're end business is a chip business or a product business. It's gotten a lot more gray. We follow what the industry is demanding, and what the industry wants to see is solutions getting to market faster. And that's what we're focused on. Qualcomm. Not much I can say on that, other than we're headed to a trial. I think it's the third week in December. We feel very good about our case. We think our case is quite simple and straightforward. And as I said, December, we'll find out."

Peter Elstrom: "Okay. So, you head to the courtroom then. One last question. I think we have time for this. In this audience in particular, there's a lot of interest in whether Arm, which is historically a British company, whether they would ever look at doing some sort of dual listing. Of course, we've heard about this many times in the past. A year ago when you did your IPO, you decided you would do it in the U.S. instead. One of the opportunities for listing here, what are the pluses and minuses of that sort of thing?"

Rene Haas: "Yeah, we did. We listed in New York over over a year ago. And at that time our comments were we would look at a secondary listing. We're still open to it. It's not something that's top of mind right now, quite candidly. But we'll continue to have discussions with both stakeholders in the government and in the local exchange. We'd love to find a way at some point

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 564 of 616 PageID #: 27057

## HIGHLY CONFIDENTIAL – ATTORNEYS' EYES ONLY SUBJECT TO PROTECTIVE ORDER

in time, but also at the same time, there's a lot of other things that keep me busy relative to my day job."

Peter Elstrom: "Okay. All right. Rene Haas, thank you very much. Please join me in welcoming. Thank you."

# EXHIBIT 29

	Page 1
1	UNITED STATES DISTRICT COURT
2	DISTRICT OF DELAWARE
3	x
4	QUALCOMM INCORPORATED and
5	QUALCOMM TECHNOLOGIES, INC.
6	Plaintiffs
7	vs. CA No. 1:24-cv-00490-MN
8	ARM HOLDINGS plc, f/k/a/ ARM LTD.
9	Defendant
10	x
11	
12	HIGHLY CONFIDENTIAL
13	
14	VIDEO DEPOSITION of TIMOTHY S. SIMCOE, PhD
15	Friday, September 26, 2025 - 9:00 a.m.
16	Kirkland & Ellis LLP
17	200 Clarendon Street
18	Boston, Massachusetts
19	
20	
21	Reporter: Jill K. Ruggieri, RPR, RMR, FCRR, CRR
22	
23	
24	
25	

	Page 22		Page 24
1	Mohamed Awad	1	independent opinions about whether or not the
2	A Yes.	2	success of Arm's ISA was due to the quality of
3	Q on August 29, 2025?	3	its product versus something else?
4	A Yes.	4	A Well, that's not quite right. I've
5	Q Who is that?	5	looked at a number of factors that lead me to
6	A To be honest, I don't recall my	6	think that there are things like its power
7	conversation with Mr. Awad. We would have to	7	consumption, that's a characteristic of
8	look through the report to see what	8	products that implement the Arm architecture
9	Q It's not cited in your report. I'll	9	that are viewed as quality, a high-quality
10	represent that to you, so	10	attribute in the market, and that contributes
11	A Ah.	11	to its success.
1			
12	Q That's why I was going to ask you	12	I rely in part on Dr. Brogioli,
13	what was the conversation about.	13	but I rely on other kinds of market evidence to
14	A Okay.	14	re you know, to understand that, and I
15	Q Sounds like it wasn't memorable,	15	describe it in the report.
16	SO	16	Q Okay.
17	A No.	17	So you do have an opinion as to
18	Q You don't remember?	18	whether the quality of the product was a reason
19	A I don't.	19	for Arm's success?
20	Q Okay.	20	A What I would say is that the evidence
21	And then there is a conversation	21	suggests that there is a relationship between
22	with a Dr. Michael Brogioli on September 2nd as	22	the quality of Arm's ISA and its success in the
23	well?	23	market. I provide all that evidence here.
24	A Yes.	24	I'm not opining as a technical
25	Q Who is Dr. Brogioli?	25	expert about how as a matter of engineering you
	Page 23		Page 25
1	A He's an electrical engineer who knows	1	produce an ISA that is low-power-consuming or
2	about instruction set architecture and	2	has the right set of, you know, sort of
3	semiconductors manufacturing and design. I	3	instructions in the instruction set. But, you
4	think he's at Rice University.	4	know, I think the evidence supports the idea
5	Q And how long did you speak with	5	that Arm's market success is related to the
6	Dr. Brogioli?	6	quality of its intellectual property.
7	A I think that conversation was 15 or	7	Q Now, twice in your answers the
8	20 minutes.	8	last two answers you've mentioned power
9	Q And what did you speak about?	9	consumption as being part of that quality
10	A I mean, one of the topics was there	10	that's contributed to their success; is that
11	was some claims that Professor Posner made in	11	right?
12	his opening report about the reasons for Arm's	12	A Yes.
13	success having nothing to do with the quality	13	Q And is there another way of
14	of its products, more you know, that's	14	describing that as in documents I've seen,
15	paraphrasing. That it was like just an	15	as energy efficiency?
16	arbitrary choice. We had to pick an ISA and	16	A Fair.
17	this one emerged as the winner.	17	Q All right.
18	Like, you know, he's done an	18	Do you have an opinion as to
19	analogy of driving on the left side or the	19	whether there were other things that led to
20	right side of the road. I thought I could	20	Arm's success besides power consumption?
21	usefully speak to someone who knows the	21	A Well, I would say I point to Arm's
22	technology about whether that was accurate or	22	sustained research and development investment.
23	not, and Dr. Brogioli suggested it wasn't.	23	I didn't make a detailed investigation of
24	Q Okay.	24	how you know, what are the list of product
	- · · · · ·	25	characteristics that different application
25	So you don't have any	23	characteristics that different application

7 (Pages 22 - 25)

	Page 26		Page 28
1	sectors demand, you know. So one thing I'm	1	consumption that have led to Arm's success?
2	aware of and I've seen in preparing these	2	A I think I answered that question.
3	reports is they use something called, like	3	I've looked at evidence that suggests there are
4	there's a die area.	4	other characteristics, but I haven't as part of
5	This is kind of like power,	5	my assignment developed a comprehensive list,
6	performance, area, and I know that some of	6	so I guess no.
7	their products products implementing the Arm	7	Q Okay.
8	ISA perform well in those characteristics.	8	Do you have an opinion as to
9	That's one way you measure quality in these	9	whether Arm's licensing model contributed to
10	markets.	10	its success?
11	I know that there are other	11	A Well, mostly my opinions are, you
12	characteristics that have different I would	12	know, because I was asked to provide a rebuttal
13	say take different weights depending on the	13	report, opinions about Professor Posner's use
14	application sector you're talking about,	14	of economic methodologies and evidence.
15	whether it's mobile, data centers, laptops and	15	So the question is do I have an
16	PCs, automobiles.	16	opinion about whether Arm's licensing model
17	But it really wasn't my	17	I guess I haven't been asked to sort of
18	assignment to lay out all of the	18	evaluate whether there's some relationship
19	characteristics that go into some notion of	19	there.
20	quality.	20	Q So the answer is no?
21	I was mostly just rebutting what	21	A I guess not.
22	I thought were Professor Posner's assertions	22	Q Going back to the feature or quality
23	that there was no quality explanation for Arm's	23	of energy efficiency, have you evaluated
24	success.	24	whether there are other instruction set
25	Q All right.	25	architectures, past or present, that provide
	Page 27		Page 29
1	So just to cover the one thing	1	that quality of energy efficiency?
2	you mentioned there, power, performance, area,	2	A I haven't done any technical
3	is that a feature of Arm's ISA or is that a	3	evaluation of any instruction set
4	measure of energy efficiency?	4	architectures, but I can observe that there are
5	MS. POHL: Object to form.	5	other competing instruction set architectures
6	A It's a measure it's a way of	6	and that they achieve a degree of success in
7	measuring what's the performance of a chipset,	7	different chip markets.
8	is my understanding.	8	Q Okay.
9	Q It's a way of measuring energy	9	So more specifically, the
10	efficiency?	10	question is have you evaluated whether there
11	A Well, no, area is different from	11	are other instruction set architectures, past
12	efficiency.	12	or present, that provide that quality of energy
13	Another characteristic that can	13	efficiency?
14	be valuable is how much area does a chip take	14	MS. POHL: Object to form.
15	in the final product.	15	A Well, you you know, as I said, I
16	Q Right.	16	haven't done any technical evaluation of any
17	I thought you said performance	17	instruction set architectures.
18	per area, like I thought you were correlating	18	Your question is vague as to
19	the two in your answer.	19	whether the evaluation you're asking for is
1 -	Is that wrong?	20	economic or technical.
20	· · · · · · · · · · · · · · · · · · ·		
20 21	A No.	21	O I think it's technical.
21	A No. O Okay.	21 22	Q I think it's technical. A Okay.
	A No. Q Okay. So going back to my previous	21 22 23	

8 (Pages 26 - 29)

A The answer is no, I have not done any

25 technical performance evaluation of any chips

24

question, do you have an opinion as to whether

25 there are other things besides power

24

or any instruction set architectures.  Q Okay.  And have you relied on anyone  else's opinion about whether there are instruction set architectures, past or present, that provide the quality of energy efficiency?  A I don't recall that I've relied on anyone I don't think that that was the topic of my conversation with Dr. Brogioli.  I recall looking at articles I that discuss performance, say technical performance of different instruction set architectures, and some of them may be cited in  recognition and in that sense this dispute.  Q So what about opinion, what about the limit is case? A Well, with respect services are part of a sche limit is case? And have you relied on anyone describing, what's at issue general services are part of a sche limit in a manner that would be limit in the sense are limit in the sense are limit in the sense at limit in the sense are limit in the sense are limit in the sense at limit in the sense are limit in the sense are limit in the sense at limit in the sense at limit in the sense at limit in the sense are limit in the sense at limit in the sense are limit in the sense at limit in the sense a	e, it's related to I mean, in your
2 intent. And in that sense 3 this dispute. 4 else's opinion about whether there are 5 instruction set architectures, past or present, 6 that provide the quality of energy efficiency? 7 A I don't recall that I've relied on 8 anyone I don't think that that was the topic 9 of my conversation with Dr. Brogioli. 9 Posner's opening report, 10 I recall looking at articles 11 that discuss performance, say technical 12 performance of different instruction set 13 architectures, and some of them may be cited in 13 in a manner that would be	e, it's related to I mean, in your
And have you relied on anyone 4 else's opinion about whether there are 5 instruction set architectures, past or present, 6 that provide the quality of energy efficiency? 7 A I don't recall that I've relied on 8 anyone I don't think that that was the topic 9 of my conversation with Dr. Brogioli. 10 I recall looking at articles 11 that discuss performance, say technical 12 performance of different instruction set 13 this dispute. 4 Q So what about 5 opinion, what about the Description in this case? 7 A Well, with respect to accions are part of a scheen in this case? 10 accions are part of a scheen in the describing in a manner that would be described in a manner that would be described. 11 Qualcomm or either in a manner that would be described. 12 to the Arm ISA or to some in a manner that would be described.	I mean, in your
4 else's opinion about whether there are 5 instruction set architectures, past or present, 6 that provide the quality of energy efficiency? 7 A I don't recall that I've relied on 8 anyone I don't think that that was the topic 9 of my conversation with Dr. Brogioli. 10 I recall looking at articles 11 that discuss performance, say technical 12 performance of different instruction set 13 architectures, and some of them may be cited in  4 Q So what about 5 opinion, what about the I opinion, what about 5 opinion, what about 6 in this case? 7 A Well, with respect according to according to according to a carcinon are part of a scheol I opinion, what about 10 according to a well a with a point about the I opinion, what about 11 opinion, what about 12 do in this case? 12 describing, what's at issue I opinion, what about 13 in this case? 14 Q So what about 15 opinion, what about 16 in this case? 17 A Well, with respect according to a	<u> </u>
5 instruction set architectures, past or present, 6 that provide the quality of energy efficiency? 7 A I don't recall that I've relied on 8 anyone I don't think that that was the topic 9 of my conversation with Dr. Brogioli. 10 I recall looking at articles 11 that discuss performance, say technical 12 performance of different instruction set 13 architectures, and some of them may be cited in 15 opinion, what about the I on this case? 7 A Well, with respect to describing, what's at issue the I on this case? 8 describing, what's at issue the I on this case? 10 actions are part of a schetal that discuss performance, say technical to the Arm ISA or to some the II opinion, what about the II opinion, what is a substituted in this case?	<u> </u>
6 that provide the quality of energy efficiency? 7 A I don't recall that I've relied on 8 anyone I don't think that that was the topic 9 of my conversation with Dr. Brogioli. 10 I recall looking at articles 11 that discuss performance, say technical 12 performance of different instruction set 13 architectures, and some of them may be cited in  6 in this case? 7 A Well, with respect 8 describing, what's at issumption of the service of	taria i ibi at ibbac
7 A I don't recall that I've relied on 8 anyone I don't think that that was the topic 9 of my conversation with Dr. Brogioli. 10 I recall looking at articles 11 that discuss performance, say technical 12 performance of different instruction set 13 architectures, and some of them may be cited in 17 A Well, with respect 8 describing, what's at issue 9 Posner's opening report, 10 actions are part of a sche 11 Qualcomm or either 12 to the Arm ISA or to som 13 in a manner that would be	
8 anyone I don't think that that was the topic 9 of my conversation with Dr. Brogioli. 10 I recall looking at articles 11 that discuss performance, say technical 12 performance of different instruction set 13 architectures, and some of them may be cited in 14 describing, what's at issume of them topic 15 Posner's opening report, 16 actions are part of a schematical of the Arm ISA or to some of them may be cited in 17 to the Arm ISA or to some of them may be cited in 18 describing, what's at issume of the property of t	et to what I was just
9 of my conversation with Dr. Brogioli. 10 I recall looking at articles 11 that discuss performance, say technical 12 performance of different instruction set 13 architectures, and some of them may be cited in 19 Posner's opening report, 10 actions are part of a sche 11 Qualcomm or either 12 to the Arm ISA or to som 13 in a manner that would be	_
10 I recall looking at articles 11 that discuss performance, say technical 12 performance of different instruction set 13 architectures, and some of them may be cited in 10 actions are part of a sche 11 Qualcomm or either 12 to the Arm ISA or to son 13 in a manner that would be	
11 that discuss performance, say technical11 Qualcomm or either12 performance of different instruction set12 to the Arm ISA or to son13 architectures, and some of them may be cited in13 in a manner that would be	
12 performance of different instruction set   12 to the Arm ISA or to son   13 architectures, and some of them may be cited in   13 in a manner that would be	=
architectures, and some of them may be cited in 13 in a manner that would be	
14 my report for various reasons. 14 And he uses the	e existence of the
But it's as I say, I don't 15 prior case at various poin	
16 as I sit here, I can't think of how my opinions 16 evidence that Arm was a	
17 rest in any important way on a technical 17 sort of pursue this scheme	
	port rebuts all of
19 Q Can we go to paragraph 56 of your 19 that. But to the extent the	
20 report? It's on page 33. 20 there was prior litigation	
21 And this is the beginning of a 21 that way, it's important to	
	that's what I'm
23 the Dispute." 23 trying to do here, is expl	ain that.
24 Am I right? 24 Q All right.	
	phs 57 to 62, you
Page 31	Page 33
	egarding the Nuvia ALA?
2 origin of the dispute between Arm and Qualcomm 2 A Sorry, paragraphs	= =
3 and that it was a contractual disagreement 3 Q 62.	
4 triggered by Qualcomm's acquisition of Nuvia in 4 MS. POHL: I'l	l take this time
5 March 2021, correct? 5 to designate the transcrip	ot highly
6 A Yes. I'm explaining that prior to 6 confidential.	
7 the present litigation, there was a dispute 7 (The deponent in	read the
8 between Arm and Qualcomm over Qualcomm's 8 document.)	
9 acquisition of Nuvia and incorporation of 9 A Some of this seen	ns to be just
10 Nuvia's designs into Qualcomm's products. 10 factual. Some of it seem	_
11 Q Now, in footnote 120 you identify the 11 understanding, supported	l by well, let's see
12 contracts at issue as Arm's ALAs with Qualcomm 12 what I'm citing.	
13 and Nuvia, right? 13 (The deponent in	read the
14 A In that earlier litigation, that's 14 document.)	
15 correct. 15 A Some of this stuff	f that's cited in
	from Qualcomm, some fron
And do you believe that the 17 Arm.	
18 Nuvia ALA is at issue in this case? 18 But yes, it's my	own
MS. POHL: Object to form. 19 understanding of the initial	
20 A Depends how you think about it. 20 Q Including Arm's p	
21 There is a jury decision in the other case; 21 the Nuvia ALA?	
22 which I understand was sort of mixed as to the 22 A I don't think all or	f these paragraphs
23 different claims. And I would say Professor 23 speak to exactly what yo	
24 Posner's report seeks to use the prior case 24 think Arm's position in the	
25 sometimes without referencing it, but he kind 25 described in these paragr	=

	Page 34		Page 36
1	Q Okay.	1	A Well, if you accept my mangled
2	Now, in one of your answers you	2	terminology, yes, though I understand that all
3	mentioned that there was a jury verdict and you	3	of this is under appeal and that there's
	said it was sort of mixed as to the different	4	posttrial stuff, posttrial motions happening
4	claims.	l	· · · · · · · · · · · · · · · · · · ·
5		5	and so forth.
6		6	But yes, the jury decided,
7	Q Right?	7	according to this form, that, quote they
8	A Yes.	8	decided that Qualcomm had not breached
9	Q And you reviewed that jury verdict?	9	Section 15.1(a) of the Nuvia ALA, and that Qualco
10	A I've seen the form, yes.	10	CPUs, including designs acquired in the Nuvia
11	Q All right.	11	acquisition, are licensed under the Qualcomm ALA.
12	You didn't reference that jury	12	Q Okay.
13	verdict in your opening report, right?	13	Why don't you go back to your
14	A I'll take your word for it.	14	report. We'll turn to paragraph 124. That's
15	Q Is there a reason why?	15	on page 79.
16	A No.	16	A Yes.
17	Q Okay.	17	Q Okay.
18	MR. DESAI: We'll mark this as	18	And as part of forming your
19	Exhibit 4.	19	opinions, you were asked to assume that the
20	(Exhibit 4 marked for	20	disagreement with Qualcomm reflects Arm's
21	identification.)	21	genuine views of Qualcomm's and Nuvia's
22	BY MR. DESAI:	22	contractual obligations rather than an intent
23	Q I apologize, you did actually refer	23	to harm Qualcomm, right?
24	to it in footnote 5 of your report, so that was	24	A I don't recall writing let's see.
25	my mistake.	25	I guess that says that's the first sentence
	Page 35		Page 37
1	A Okay. Apology accepted.	1	here.
2	Q Exhibit 4 is the verdict form from	2	I think it's important in
3	the Arm v. Qualcomm litigation, and you, as we	3	understanding that assumption to understand
4	discussed, reviewed this before, right?	4	what I'm doing.
5	A Yes.	5	You know, sort of my
6	Q When you said there was a mixed	6	understanding here is that this question of
7	result, can you explain what you meant?	7	intent is really for the jury, not for an
8	A Well, the I apologize for my lack	8	economist, not something you know, I don't
9	of sophistication as to legal terminology.	9	have economic methods that let me peer inside
10	Q Yeah.	10	the heads of Arm's executives and let me
11	A Question 1 here has no checkmark on	11	understand what they intended to do.
12	it. I believe that means that the jury hung on	12	Professor Posner takes a bunch
13	the question of well, as it's put: Did Arm	13	of positions that suggest he feels otherwise,
14	prove by a preponderance of the evidence that	14	and so I felt it was important to clarify that.
15		15	
	Nuvia breached Section 15.1(a) of the Nuvia		I can still have opinions about
16	ALA?	16	the litigation, I guess as the section header
17	So in other words, the jury	17	here shows.
18	couldn't decide whether Nuvia breached the ALA	18	But yes, I so when I made
19 20	that it had signed with Arm. And in that	19	that statement, I was trying to clarify that
1 7/11	sense, it's mixed.	20	I'm not going to sort of preempt the jury by
1	Q Okay.	21	assuming intent.
21			() Right
21 22	But with respect to Qualcomm and	22	Q Right.
21 22 23	But with respect to Qualcomm and whether Qualcomm breached the Nuvia ALA, there	23	But you're assuming as part of
21 22	But with respect to Qualcomm and		

10 (Pages 34 - 37)

	D 20		D 40
1	Page 38 Qualcomm's and Nuvia's contractual obligations	1	Page 40 assumption, and then it's conclusory.
2	rather than an intent to harm Qualcomm, right?	2	What I say is if I assume if
3	A Well, I see that as consistent with a	3	I made the opposite assumption, there would be
4	variety of evidence that I provide in this	4	intent to harm. This is sort of this is a
5	section of the report. I don't simply make an	5	situation where I think the evidence supports
6	assumption and move on. I illustrate how the	6	the assumption that I make, but I want to be
7	evidence is consistent with the idea that there	7	clear about what are the limits of the kind of
8	was a genuine dispute and that that dispute	8	analysis I do.
9	persists.	9	Q Okay.
10	But I'm not going to assume that	10	So you you are taking the
11	I'm able to divine the intent, look inside the	11	position in your report that there that
12	heads of the people at issue to understand what	12	you've looked at evidence and it supports that
13	caused them to take the actions they were	13	there was no intent to harm, right?
14	taking.	14	I think that's what you just
15	Q Right.	15	said.
16	But you're assuming there was no	16	A The way I would put it is there are
17	intent, right?	17	competing hypotheses here, okay? The one that
18	MS. POHL: Objection.	18	Professor Posner considers, which is all of
19	Q You're not being neutral on intent.	19	these actions are a scheme to harm Qualcomm.
20	You're assuming there was no intent, right?	20	Another is that there are two parties that have
21	A I am both looking at the evidence to	21	a contractual dispute that was triggered, you
22	try and understand whether the conduct that you	22	know, sort of by this earlier acquisition of
23	see is what Professor Posner characterizes as a	23	Nuvia and the actions that flowed from that,
24	broad scheme to foreclose as opposed to just	24	and that what he points to as anticompetitive I
25	two parties engaged in a contractual dispute.	25	see as just the actions of two parties trying
1	Page 39 And I explain throughout my	1	Page 41 to resolve a dispute.
2	report why I think that evidence is consistent	2	But I can't answer the question
3	with as a matter of economics two parties	3	of what were you, you know, either Arm or
4	that have a contractual dispute and not a	4	Qualcomm executive, thinking in the moment.
5	scheme to foreclose.	5	I can look at their testimony.
6	At the same time, I don't want	6	I can look at I can use economic tools to
7	to suggest that economics allows me to reach	7	assess their actions. And so I think of it as
8	the question of what is the intent of an	8	a likelihood problem, which of these two
9	individual person, what are they thinking in	9	explanations are more likely.
10	the moment. That's for a jury to do, so I	10	I explain in my report why I
11	don't do it.	11	think the likelier explanation is that they're
12	Q Okay.	12	just in a contractual dispute.
13	A And I make that and I make this	13	But as to the question so let
14	assumption.	14	me put it this way: Given that I think that's
15	Q Right.	15	the more likely explanation based on the
16	So if it's for the jury to	16	economics and the facts that I see, it would be
17	decide whether or not there was intent to harm,	17	strange to make the opposite assumption, if an
18	why are you assuming that there was no intent	18	assumption has to be made.
19	to harm?	19	But I see it feels to me, at
20	MS. POHL: Object to form.	20	least, implicitly, like that's what Professor
21	A Well, if I was to assume the I	21	Posner has done, so I want to be clear that I'm
22	guess I don't want to make the mistake that I	22	not doing that.
23	think Professor Posner makes, which is to	23	Q Okay. I want to understand what you
24	assume the conclusion.	24	were doing.
25	He makes the opposite	25	So is this a fair
1		1 -	

11 (Pages 38 - 41)

1	Page 42	1	Page 44
1	characterization of what you've done, which is	1	more consistent with that interpretation, that
2	you've assumed that there was the dispute	2	there is a legitimate disagreement, than with
3	was about over contractual obligations	3	the alternative explanation that Arm set out to
4	rather than an intent to harm, and then you've	4	harm Qualcomm and has been engaged in some
5	looked at various pieces of evidence and said	5	anticompetitive scheme.
6	that I've looked at this evidence and it	6	And as I've explained several
7	supports my assumption that there was no intent	7	times, part of that question is, well, what do
8	to harm; is that right?	8	you assume about intent? Because economics
9	MS. POHL: Object to form.	9	doesn't let us peer into the minds of the
10	A No. I look at the evidence and I	10	relevant people to know what they were doing,
11	conclude that the evidence supports the	11	and I can't weigh that evidence.
12	conclusion sorry. Would you repeat the	12	So I make an assumption. My
13	question? Because there was something about	13	assumption is the testimony from Arm's
14	"harm" in there, and I think I missed that. I	14	executives about what they were intending to do
15	think I originally already had disagreed with	15	or how they understood this dispute to be sort
16	part of the premise.	16	of a genuine dispute over these contracts was
17	Q Okay. I'll try it again. That's	17	true testimony. I assume they weren't lying
18	fair.	18	under oath, and I proceed. I think Professor
19	Is it a fair characterization	19	Posner makes the assumption, though not
20	that this is what you've done? You've said	20	explicitly, that they were lying under oath.
21	that the dispute in this litigation was about	21	Q Can you point me to the place in
22	genuine views regarding contractual obligations	22	Professor Posner's report or reports where he
23	rather than an intent to harm, and then you've	23	is assuming that they were people were lying
24	looked at a bunch of evidence and testimony,	24	under oath?
25	documents, and it's your view that that	25	A Well, he doesn't say that. As I
	Page 43		Page 45
1	supports your assumption that there was no	1	said, it was implicit, no?
2	intent to harm?	2	Q Well, where are you implying that
3	MS. POHL: Same objection.	3	from in his report?
4	A I see. I think that the way to	4	(The deponent read the
5	again, I think I've tried to explain this. I	5	document.)
6	don't view my the analysis that I do as	6	A Where does he do the
7	supporting an assumption, which is the way you	7	(The deponent read the
8	framed the question, I believe.	8	document.)
9	The as I said, there are	9	A So let me let me I'll sort of
10	you know, what I see as at issue in the case	10	do it in three steps.
11	here is whether Qualcomm's claims that Arm's	11	The first step is that Professor
12	actions are anticompetitive is correct or not.	12	Posner's report, as I sort of explain in my own
13	I think it is not correct, okay?	13	report, really ignores the alternative
14	One aspect of Qualcomm's claims	14	explanation. So Nuvia, I think, appears once
15	or part of investigating Arm's conduct is	15	or twice, but there's zero explanation of the
16	asking what was their intent.	16	prior dispute or consideration of the idea that
17	I can look at the economic	17	this might sort of that Arm's actions might
18	evidence and I can say I see very little	18	be actions taken because there's an actual
19	evidence that there is actual harm. Moreover,	19	dispute, which was litigated and went past
20	as to the question of intent, their activities	20	summary judgment, as to how those contracts
21	look to be to be consistent with an	21	should be interpreted.
22	explanation of Arm and Qualcomm having a	22	The second thing I would point
23	legitimate disagreement over the interpretation	23	to is sort of on page 23 of his report, he
24	of these contracts.	24	talks about Arm engaging in a misinformation
25	In fact, I view the evidence is	25	campaign, you know, sort of which is really
	111 1410, 1 110 11 till 0 11401100 15		

12 (Pages 42 - 45)

1			D 40
	Page 46 just parroting things from Qualcomm's second	1	Page 48  A My view is that in this case, that
2	amended complaint, I think.	2	evidence and other evidence supports the view
3	And the third is where he	3	that this litigation was not part of a broader
4	misstates Rene Haas at paragraph 88, where he	4	anticompetitive scheme.
5	says, "Haas is confirming that Arm no longer	5	If you want to sort of go
6	wishes to keep prior commitments and instead	6	through hypotheticals about other cases, that's
7	plans to cut off ALA licensees." And I explain	7	fine.
8	how that's really misrepresenting what was	8	Q I think I understand.
9	being said.	9	I'm going back to one of your
10	Q I don't see where we get an	10	previous answers, and you said, "I view the
11	implication about people lying under oath	11	evidence as more consistent with that
12	from	12	interpretation, that there is a legitimate
13	A Implicitly.	13	disagreement, than with the alternative
14	Q What testimony from someone under	14	explanation that Arm set out to harm Qualcomm
15	oath are we referring to?	15	and has been engaged in some anticompetitive
16	A Oh, gosh.	16	scheme."
17	Well, we'd have to go back and	17	Okay? That was your testimony.
18	look at Arm executives' testimony about Arm's	18	I just read it.
19	intent.	19	In viewing the evidence and
20	Q Okay.	20	making that sort of balance of whether it
21	The statements by Mr. Haas you	21	demonstrates that it's more likely that it's a
22	refer to in paragraph 88, that's not testimony	22	legitimate disagreement versus some plan to
23	under oath, right?	23	harm Qualcomm, before you did that, you assumed
24	A Correct.	24	that Arm did not intend to harm Qualcomm,
25	Q All right.	25	right?
	Page 47		Page 49
1	Now, you brought up getting past	1	A No.
2	summary judgment in your answer with respect to	2	Q All right.
3	Arm's claims in the prior case, right?	3	A That's not correct.
4	A Correct.	4	Q Okay.
5	Q Is it your view that because the case	5	Then I'm not sure I
6	proceeded past summary judgment, the litigation	6	understand if we go back to that
7	cannot be part of a broader anticompetitive	7	paragraph 124 what you mean when you say
8	scheme?	8	that counsel for Arm asked you to assume that
9	A I am not a lawyer, but my	9	the disagreement with Qualcomm reflects Arm's
10	understanding is that one reason for summary	10	genuine views rather than an intent to harm
11	judgment is to screen out sham litigation. The	11	Qualcomm.
12	fact that this case made it past summary	12	Can you explain?
13	judgment and got to a jury suggests that there	13	A Well, let me explain why I answered
14	was some evaluation of the claims and that they	14	"no" to your question.
15	were perceived to have enough merit so as not	15	Q Sure.
16	to be thrown out, to be put to a jury.	16	A Your question had the word "before"
17	That weighs on the side of	17	in it.
18	thinking that there could be a genuine dispute.	18	Do you want to read it again so
19	Q All right.	19	we can be clear?
20	So is it your view that because	20	Q No.
21	the case proceeded to a trial and there was, in	21	A Okay. Your question said did I make
1	your view, a genuine dispute, that means the	22	this assumption before I looked at the evidence
22			
22 23	litigation cannot be part of a broader	23	and assessed that the evidence was more
22	litigation cannot be part of a broader anticompetitive scheme?  MS. POHL: Object to form.	23 24 25	and assessed that the evidence was more consistent with one explanation than another explanation.

13 (Pages 46 - 49)

Page 50  1 That's not what I did. I looked 2 at the evidence first, okay? I considered 3 these two explanations, okay? And then, as I 4 have explained, you reach this question of, 5 well, how do you approach the matter of intent, 6 okay? The -you know, intent of the 7 individuals. 8 And because I don't think that 9 it's something that economic tools are designed 10 to assess - as I've explained, it's kind of a 11 psychological question - and because I don't 12 want to preempt a jury, which I think is - or 13 at least it's my understanding that this is a 14 question for the jury, I don't want to preempt 15 them - I said I will make this assumption that 16 is consistent with my view of the evidence, 17 which I did before making the assumption. So 18 you had the order reversed in the question. 19 your report. It's on page 152. 20 A Sorry, which paragraph? 21 Q Now, if we go to paragraph 237 of 22 your report. It's on page 152. 23 A Sorry, which paragraph? 24 Q 237. 25 A Thank you.  Page 51  1 Q Here, you say, "Counsel for Arm has 2 instructed me to assume that Arm started the 3 Arm v. Qualcomm litigation to exercise its 4 contractual rights, not to foreclose Qualcomm," right? 6 A Than's true, and I would encourage 7 you to read the next sentence - 20 Q Now, it we go to port or page 152. 3 Q Pragoing to. 4 A Than's true, and I would encourage 7 you to read the next sentence - 10 Q Soy on have - in forming your opinions in this 13 report, what I just read, that sentence, that 14 is an assumption that you were asked to make by 15 Arm's counsel, correct? 16 A I mean - yes. I mean, I think it's 16 actually an assumption that we reached a point 17 where I recognized the need to address this 18 question of intent, so it is not the case that 29 they said coming into the assignment, you 20 assume this and go from there and everything 21 flows from it." 22 A Sorry chick and the said of the page 10				
2 at the evidence first, okay? I considered 3 these two explanations, okay? And then, as I 4 have explained, you reach this question of, 5 well, how do you approach the matter of intent, 6 okay? The -you know, intent of the 7 individuals. 8 And because I don't think that 9 it's something that economic tools are designed 10 to assess - as I've explained, it's kind of a 11 psychological question - and because I don't 12 want to preempt a jury, which I think is - or 13 at least it's my understanding that this is a 14 question for the jury, I don't want to preempt 15 them - I said I will make this assumption 16 based - you know, and it's an assumption that 17 is consistent with my view of the evidence, 18 which I did before making the assumption. So 19 you had the order reversed in the question. 20 Yeah. 21 Q Now, if we go to paragraph 237 of 22 your report. It's on page 152. 23 A Sorry, which paragraph? 24 Q 237. 25 A Thank you.  Page 51 Q Here, you say, "Counsel for Arm has instructed me to assume that Arm started the 3 Arm v. Qualcomm litigation to exercise its 4 contractual rights, not to foreclose Qualcomm," 5 right? 6 A Thaf's true, and I would encourage 7 you to read the next sentence 8 Q I'm going to. 9 A - and what follows. Okay. 10 Q So you have in forming your 10 opinions I just want to understand. 11 In forming your opinions in this 12 report, what I just read, that sentence, that 13 is an assumption that we reached a point 14 is an assumption that we reached a point 15 where I recognized the need to undersstand. 16 A I man yes. I mean, I think it's 17 actually an assumption that we reached a point 18 where I recognized the need to address this 19 question of intent, so it is not the case that 20 they said coming into the assignment, "you 21 assume this and go from there and everything 22 flows from it." 23 As I just explained, I looked at 24 all the evidence. I reached, you know, the	١.	=		
3 these two explanations, okay? And then, as I have explained, you reach this question of, well, how do you approach the matter of intent, of okay? The you know, intent of the individuals.   8			1	· · · · · · · · · · · · · · · · · · ·
4 have explained, you reach this question of, well, how do you approach the matter of intent, okay? The you know, intent of the individuals.  8 And because I don't think that it's something that economic tools are designed to assess as I've explained, it's kind of a psychological question and because I don't the psychological question and because I don't the want to preempt a jury, which I think is or at least it's my understanding that this is a 14 question for the jury. I don't want to preempt 15 them I said I will make this assumption that is consistent with my view of the evidence, which I did before making the assumption. So I had a conversation with 17 is consistent with my view of the evidence, which I did before making the assumption hat is consistent with my view of the evidence, and I would encourage your report. It's on page 152.  1 Q Now, if we go to paragraph 237 of your report. It's on page 152.  2 your report. It's on page 152.  2 your report. It's on page 152.  3 A Sorry, which paragraph?  4 Q 237.  5 A Thank you.  Page 51  Q Here, you say, "Counsel for Arm has instructed me to assume that Arm started the Arm v. Qualcomm Migation to exercise its contractual rights, not to foreclose Qualcomm, right?  6 A That's true, and I would encourage you to read the next sentence  8 Q I'm going to.  9 A and what follows. Okay.  10 Q So you have in forming your opinions in this report, what I just read, that sentence, that is an assumption that you were asked to make by the form in the were I recognized the need to address this question of intent, so it is not the case that they said coming into the assignment, "you assume this and go from there and everything flows from it."  2 A SI just explained, I looked at all the evidence. I reached, you know, the	2		1	
5 well, how do you approach the matter of intent, 6 okay? The – you know, intent of the 7 individuals. 8 And because I don't think that 8 And because I don't think that 11 psychological question – and because I don't 12 want to preempt a jury, which I think is – or 13 at least it's my understanding that this is a 14 question for the jury. I don't want to preempt 15 them – I said I will make this assumption 16 based – you know, and it's an assumption that 17 is consistent with my view of the evidence, 18 which I did before making the assumption. So 19 you had the order reversed in the question. 10 Yeah. 11 Q Now, if we go to paragraph 237 of 12 your report. It's on page I52. 12 A Sorry, which paragraph? 13 A Sorry, which paragraph? 14 Q Last Thank you. 15 A Thank you. 16 A That's true, and I would encourage 17 you to read the next sentence – 18 Q I'm going to. 19 Q So you have – in forming your 10 opinions – I just want to understand. 11 report, what I just read, that sentence, that 14 is an assumption that you were asked to make by 15 Arm's counsel, correct? 16 A I mean – yes. I mean, I think it's 17 actually an assumption that were ached a point 18 where I recognized the need to address this 19 question of intent, so it is not the case that 20 they said coming into the assignment, "you 21 assume this and go from there and everything 22 flows from it." 23 As I just explained, I looked at 24 all the evidence. I reached, you know, the	3	- · · · · · · · · · · · · · · · · · · ·	3	· · · · · · · · · · · · · · · · · · ·
6 okay? The — you know, intent of the 7 individuals. 8 And because I don't think that 9 it's something that economic tools are designed 10 to assess — as I've explained, it's kind of a 11 psychological question — and because I don't 12 want to preempt a jury, which I think is — or 13 at least it's my understanding that this is a 14 question for the jury, I don't want to preempt 15 them — I said I will make this assumption that 17 is consistent with my view of the evidence, 18 which I did before making the assumption. So 19 you had the order reversed in the question. 10 Yeah. 11 Q Now, if we go to paragraph 237 of 12 your report. It's on page 152. 12 A Sorry, which paragraph? 13 Q Here, you say, "Counsel for Arm has 14 contractual rights, not to foreclose Qualcomm," 15 right? 1 Q Here, you say, "Counsel for Arm has 2 instructed me to assume that Arm started the 3 Arm v. Qualcomm litigation to exercise its 4 contractual rights, not to foreclose Qualcomm," 17 right? 1 Q Fing going to. 2 Page 53 2 this, based on my expertise and my knowledge, 2 this looks more like a lawsuit about genuine 3 contractual dispute rather than a lawsuit 4 that's directed at harming and foreclosing 5 qualcomm, right? 6 A That's true, and I would encourage 7 you to read the next sentence — 8 Q I'm going to. 9 A — and what follows. Okay. 10 Q So you have — in forming your 11 opinions — I just want to understand. 12 In forming your opinions in this 13 report, what I just read, that sentence, that 14 is an assumption that you were asked to make by 14 A I mean — yes. I mean, I think it's 15 actually an assumption that we reached a point 16 where I recognized the need to address this 17 question of intent, so it is not the case that 18 Q I'm going to. 19 A I mean — yes. I mean, I think it's 20 A So it's not just the, you know, kind 21 of patenting tha's and they supported the view that we subout it, but it's not something tools. 22 don't and the supported the view that we supported the view that we sasumption. 24 dotay. 25 lath ta conversation	4		4	
about it, but it's not something that's economic tools are designed to assess as I've explained, it's kind of a psychological question or and because I don't want to preempt a jury, which I think is or at least it's my understanding that this is a question for the jury, I don't want to preempt 13 at least it's my understanding that this is a question for the jury, I don't want to preempt 15 them I said I will make this assumption that is consistent with my view of the evidence, law which I did before making the assumption so you had the order reversed in the question. Yeah. Q Now, if we go to paragraph 237 of you report. It's on page 152. 23 A Sorry, which paragraph? 24 Q 237. 25 A Thank you. Page 51 Q Here, you say, "Counsel for Arm has instructed me to assume that Arm started the contractual rights, not to foreclose Qualcomm," right, and you ve your to read the next sentence Q I'm going to. A and what follows. Okay. Qualcomm AI.A, testimony, right, and you ve you to read the next sentence Q I'm going to. A and what follows. Okay. Qualcomm, right, of you have the intigation to exercise its report, what I just read, that sentence, that is an assumption that we reached a point where recognized the need to address this question of intent, so it is not the case that where I recognized the need to address this question of intent, so it is not the case that all the evidence, and the next sentence, and the next sentence, you do way. Too that were asked to make by a saude that is an assumption that we reached a point where I recognized the need to address this question of intent, so it is not the case that the where I recognized the need to address this question of intent, so it is not the case that all the evidence. I reached, you know, the	5		5	
8 And because I don't think that 9 it's something that economic tools are designed 10 to assess – as I've explained, it's kind of a 11 psychological question – and because I don't 12 want to preempt a jury, which I think is – or 13 at least it's my understanding that this is a 14 question for the jury, I don't want to preempt 15 them – I said I will make this assumption 16 based – you know, and it's an assumption that 17 is consistent with my view of the evidence, 18 which I did before making the assumption. 19 you had the order reversed in the question. 19 you had the order reversed in the question. 20 Yeah. 21 Q Now, if we go to paragraph 237 of 22 your report. It's on page 152. 23 A Sorry, which paragraph? 24 Q 237. 25 A Thank you.  Page 51 1 Q Here, you say, "Counsel for Arm has 2 instructed me to assume that Arm started the 3 Arm v. Qualcomm litigation to exercise its 4 contractual rights, not to foreclose Qualcomm, 5 right? 6 A That's true, and I would encourage 9 you to read the next sentence – 10 Q So you have – in forming your 11 opinions – I just want to understand. 12 In forming your opinions in this 13 report, what I just read, that sentence, that 14 is an assumption that we reached a point 17 where I recognized the view that we 18 oloval have this assumption. 28 A I mean – yes. I mean, I think it's 29 dualcomm, right? 20 A I mage of the processor Posner 21 opinions – I just want to understand. 21 a lithy an assumption that we reached a point 22 where the recognized the riew and eview that we 23 all the evidence, I reached, you know, the 24 dual the evidence is an another than a lawsuit 25 done that for the record. 26 done is you've taken a look at this evidence 27 done is you've taken a look at this evidence 28 done is you've taken a look at this evidence 29 done is you've taken a look at this evidence 20 done is you've taken a look at this evidence 21 done is you've taken a look at this evidence 22 this looks more like a lawsuit about genuine 23 doult the litigation, about the hitigation than the	6		6	
9 it's something that economic tools are designed 10 to assess — as I've explained, it's kind of a 1 psychological question — and because I don't 12 want to preempt a jury, which I think is — or 13 at least it's my understanding that this is a 1 question for the jury, I don't want to preempt 15 them — I said I will make this assumption 16 based — you know, and it's an assumption that is consistent with my view of the evidence, 18 which I did before making the assumption. So 19 you had the order reversed in the question. So 19 you had the order reversed in the question. So 19 your report. It's on page 152. 20 A Sorry, which paragraph? 21 Q lookay. 21 So is it fair to say what you've 22 done is you've taken a look at this evidence 23 about the litigation, about the Nuvia ALA, the 24 Qualcomm ALA. testimony, right, and you've said, objectively speaking, looking at all 24 is an assumption that you were asked to make by 3 A — and what follows. Okay. Q So you have — in forming your opinions — I just want to understand. 10 In forming your opinions in this 21 report, what I just read, that sentence, that 31 actually an assumption that were reached a point where I recognized the need to address this 4 all the evidence. I reached, you know, the 24 all the evidence. I reached, you know, the 25 now 10:10, and we are on the record.	7	individuals.	7	about it, but it's not something that's
to assess — as I've explained, it's kind of a lipsychological question — and because I don't want to preempt a jury, which I think is — or at least it's my understanding that this is a question for the jury, I don't want to preempt to them — I said I will make this assumption that to based — you know, and it's an assumption that is consistent with my view of the evidence, which I did before making the assumption. So is consistent with my view of the evidence, which I did before making the assumption. So is one of its main customers."  Yeah. Veah. 20 Yoan. Yeah. 20 Now, if we go to paragraph 237 of your report. It's on page 152. 22 A Sorry, which paragraph? 23 A Sorry, which paragraph? 24 Q 237. 25 A Thank you. 25 So is it fair to say what you've done is you've taken a look at this evidence which this did objectively speaking, looking at all this, based on my expertise and my knowledge, this looks more like a lawsuit about genuine contractual rights, not to foreclose Qualcomm, and the value of the evidence of the scheme that Professor Posner and the next sentence — Q I'm going to. Q So you have — in forming your opinions — I just want to understand. 10 In forming your opinions in this report, what I just read, that sentence, that is an assumption that you were asked to make by the recognized the need to address this where I recognized the need to address this my question of intent, so it is not the case that they said coming into the assignment, "you assume this and go from there and everything flows from it." 190 West of the evidence. I reached, you know, the all the evidence. I reached, you know, the all the evidence. I reached, you know, the promise in that we reached a point where I reached, you know, the many promote that the saudule of the record. 20 Now 10:10, and we are on the record.	8	And because I don't think that		necessarily reachable using standard economic
11 psychological question — and because I don't	9	it's something that economic tools are designed	9	tools.
12 want to preempt a jury, which I think is — or a least it's my understanding that this is a question for the jury, I don't want to preempt 15 them — I said I will make this assumption 16 based — you know, and it's an assumption that 16 based — you know, and it's an assumption that 16 based — you know, and it's an assumption. So you had the order reversed in the question. So 19 you had the order reversed in the question. So 19 you had the order reversed in the question. So 19 you had the order reversed in the question. So 19 your report. It's on page 152. So is it fair to say what you've 20 done is you've taken a look at this evidence about the litigation, about the Nuvia ALA, the Qualcomm ALA, testimony, right, and you've said, objectively speaking, looking at all so 2 and a sumption that we reached a point opinions — I just want to understand. In forming your opinions in this 13 report, what I just read, that sentence, that is an assumption that you were asked to make by 15 Arm's counsel, correct? A I mean — yes. I mean, I think it's actually an assumption that we reached a point where I recognized the need to address this question of intent, so it is not the case that they said coming into the assignment, "you assume this and go from there and everything flows from it."  12	10	to assess as I've explained, it's kind of a	10	So I had a conversation with
13 at least it's my understanding that this is a 14 question for the jury, I don't want to preempt 15 them—I said I will make this assumption that 16 based—you know, and it's an assumption that 17 is consistent with my view of the evidence, 18 which I did before making the assumption. So 19 you had the order reversed in the question. 20 Yeah. 21 Q Now, if we go to paragraph 237 of 22 your report. It's on page 152. 23 A Sorry, which paragraph? 24 Q 237. 25 A Thank you.  Page 51 2 Q Here, you say, "Counsel for Arm has 2 instructed me to assume that Arm started the 3 Arm v. Qualcomm litigation to exercise its 4 contractual rights, not to foreclose Qualcomm," 5 right? 6 A That's true, and I would encourage 7 you to read the next sentence— 8 Q I'm going to. 9 A — and what follows. Okay. 10 Q So you have—i in forming your 11 opinions—I just want to understand. 12 In forming your opinions in this 13 report, what I just read, that sentence, that 14 is an assumption that we reached a point 18 where I recognized the need to address this 19 question of intent, so it is not the case that 19 they said coming into the assignment, "you 21 assume this and go from there and everything 22 flows from it." 23 As I just explained, I looked at 24 all the evidence. I reached, you know, the 25 and the litigation, about the Nuvia ALA, the 26 Q lokay. 27 Courset. 28 Q lokay. 29 Q koay. 20 Q koay. 20 Q koay. 30 Lorme, not eitat various factors suggest 4 that Arm's actions were not aimed at harming 4 los asy, "I note that various factors suggest 4 chat Arm's actions were not aimed at harming 4 los asy, "I note that various factors suggest 4 chat Arm's actions were not aimed at harming 4 los asy, "I note that various factors suggest 4 chat Arm's actions were not aimed at harming 4 los asy, "I note that various factors suggest 4 los asy, "I note that various factors suggest 4 los asy, "I note that various factors suggest 4 los asy, "I note that various factors suggest 4 los asy, "I note that various factors suggest 4 los asy, "I note that v	11	psychological question and because I don't	11	counsel and they supported the view that we
14   question for the jury, I don't want to preempt   15   them — I said I will make this assumption   16   based — you know, and it's an assumption that   16   based — you know, and it's an assumption that   16   based — you know, and it's an assumption that   16   based — you know, and it's an assumption that   16   based — you know, and it's an assumption that   16   based — you know, and it's an assumption that   16   based — you know, and it's an assumption that   16   based — you know, and it's an assumption that   16   based — you to report. It's on page 152.   20   Q Okay.   So is it fair to say what you've   20   done is you've taken a look at this evidence   20   about the litigation, about the Nuvia ALA, the   21   Q Here, you say, "Counsel for Arm has   2   instructed me to assume that Arm started the   3   Arm v. Qualcomm litigation to exercise its   20   accommandation   21   accommandation   22   accommandation   23   accommandation   24   accommandation   25   accommandation   26   accommandation   26   accommandation   27   accommandation   28   accommandation   28   accommandation   28   accommandation   28   accommandation   29   accommandation   29   accommandation   20	12	want to preempt a jury, which I think is or	12	should have this assumption.
15 them—I said I will make this assumption 16 based—you know, and it's an assumption that 17 is consistent with my view of the evidence, 18 which I did before making the assumption. So 19 you had the order reversed in the question. 20 Yeah. 21 Q Now, if we go to paragraph 237 of 22 your report. It's on page 152. 23 A Sorry, which paragraph? 24 Q 237. 25 A Thank you.  26 Q Here, you say, "Counsel for Arm has 27 instructed me to assume that Arm started the 28 Arm v. Qualcomm litigation to exercise its 29 contractual rights, not to foreclose Qualcomm," 29 right? 20 In going to. 21 Q Here, you say, "Counsel for Arm has 22 instructed me to assume that Arm started the 23 Arm v. Qualcomm litigation to exercise its 24 contractual rights, not to foreclose Qualcomm," 25 right? 26 A Thar's true, and I would encourage 27 you to read the next sentence— 28 Q I'm going to. 29 A - and what follows. Okay. 20 Q Okay. 21 Valacomm ALA, testimony, right, and you've said, objectively speaking, looking at all 21 In forming your opinions in this report, what I just read, that sentence, that is an assumption that you were asked to make by 29 A - and what follows. Okay. 20 Okay. 21 Q Okay. 22 this, based on my expertise and my knowledge, this looks more like a lawsuit about genuine contractual dispute rather than a lawsuit that's directed at harming and foreclosing contractual dispute rather than a lawsuit that's directed at harming and foreclosing value to the full of the serious of the scheme that Professor Posner alleges. 21 In forming your opinions in this report, what I just read, that sentence, that is an assumption that we reached a point where I recognized the need to address this actually an assumption that we reached a point where I recognized the need to address this actually an assumption that we reached a point they said coming into the assignment, "you assume this and go from there and everything flows from it." 21 A D Here, you say, "Counsel for Arm has contractual dispute rather than a lawsuit that's directed at harming	13	at least it's my understanding that this is a	13	Q Okay.
16 based you know, and it's an assumption that 17 is consistent with my view of the evidence, 18 which I did before making the assumption. So 19 you had the order reversed in the question. 20 Yeah. 20 Q Now, if we go to paragraph 237 of 21 Q Now, if we go to paragraph 237 of 22 your report. It's on page 152. 22 A Sorry, which paragraph? 23 A Sorry, which paragraph? 24 Q 237. 25 A Thank you. 25 said, objectively speaking, looking at all 25 said, objectively speaking, looking at all 26 this, based on my expertise and my knowledge, 2 this looks more like a lawsuit about genuine 2 contractual rights, not to foreclose Qualcomm," 15 right? 4 contractual rights, not to foreclose Qualcomm," 5 right? 5 Q I'm going to. 9 A and what follows. Okay. 9 C So you have in forming your opinions I just want to understand. 10 Q So you have in forming your opinions I just want to understand. 11 In forming your opinions in this 18 report, what I just read, that sentence, that 19 is an assumption that you were asked to make by 15 Arm's counsel, correct? 16 A I mean yes. I mean, I think it's 17 actually an assumption that we reached a point 18 where I recognized the need to address this 19 question of intent, so it is not the case that 20 they said coming into the assignment, "you 21 assume this and go from there and everything 21 flows from it." 21 As I just explained, I looked at 23 all the evidence. I reached, you know, the	14	question for the jury, I don't want to preempt	14	Now, in the next sentence, you
16 based you know, and it's an assumption that 17 is consistent with my view of the evidence, 18 which I did before making the assumption. So 19 you had the order reversed in the question. 20 Yeah. 20 Q Now, if we go to paragraph 237 of 21 So is it fair to say what you've done is you've taken a look at this evidence about the litigation, about the Nuvia ALA, the 24 Q 237. 25 A Thank you. 25 said, objectively speaking, looking at all 25 and 26 mistructed me to assume that Arm started the 3 Arm v. Qualcomm litigation to exercise its 4 contractual rights, not to foreclose Qualcomm," 15 right? 4 A That's true, and I would encourage 7 you to read the next sentence 8 Q I'm going to. 9 A and what follows. Okay. 10 Q So you have in forming your opinions in this 18 report, what I just read, that sentence, that 19 is an assumption that you were asked to make by 15 Arm's counsel, correct? 16 A I mean yes. I mean, I think it's 17 actually an assumption that were eached a point 18 where I recognized the need to address this 19 question of intent, so it is not the case that they said coming into the assignment, "you 20 assume this and go from there and everything 21 flows from it." 21 As I just explained, I looked at 24 all the evidence. I reached, you know, the	15		15	do say, "I note that various factors suggest
18 which I did before making the assumption. So you had the order reversed in the question. 20 Yeah. 21 Q Now, if we go to paragraph 237 of 21 So is it fair to say what you've done is you've taken a look at this evidence about the litigation, about the Nuvia ALA, the Qualcomm ALA, testimony, right, and you've said, objectively speaking, looking at all  Page 51  Q Here, you say, "Counsel for Arm has instructed me to assume that Arm started the Arm v. Qualcomm litigation to exercise its contractual rights, not to foreclose Qualcomm," right? A That's true, and I would encourage you to read the next sentence	16	based you know, and it's an assumption that	16	that Arm's actions were not aimed at harming
18 which I did before making the assumption. So you had the order reversed in the question. 20 Yeah. 21 Q Now, if we go to paragraph 237 of 21 So is it fair to say what you've done is you've taken a look at this evidence about the litigation, about the Nuvia ALA, the Qualcomm ALA, testimony, right, and you've said, objectively speaking, looking at all  Page 51  Q Here, you say, "Counsel for Arm has instructed me to assume that Arm started the Arm v. Qualcomm litigation to exercise its contractual rights, not to foreclose Qualcomm," right? A That's true, and I would encourage you to read the next sentence	17	is consistent with my view of the evidence,	17	
20 Yeah. 21 Q Now, if we go to paragraph 237 of 22 your report. It's on page 152. 23 A Sorry, which paragraph? 24 Q 237. 25 A Thank you.  Page 51  1 Q Here, you say, "Counsel for Arm has instructed me to assume that Arm started the 3 Arm v. Qualcomm litigation to exercise its 4 contractual rights, not to foreclose Qualcomm," right? 6 A That's true, and I would encourage 7 you to read the next sentence 8 Q I'm going to. 9 A and what follows. Okay. 10 Q So you have in forming your opinionsI just want to understand. 11 In forming your opinions in this report, what I just read, that sentence, that is an assumption that you were asked to make by Arm's counsel, correct? 10 A I mean yes. I mean, I think it's actually an assumption that we reached a point where I recognized the need to address this question of intent, so it is not the case that they said coming into the assignment, "you assume this and go from there and everything flows from it." 20 Q Now, if we go to paragraph 237 of 20 done is you've taken a look at this evidence about the litigation, about the litigation, about the litigation, about the Nuvia ALA, the Qualcomm ALA, testimony, right, and you've said, objectively speaking, looking at all  Page 53 this, based on my expertise and my knowledge, this looks more like a lawsuit about genuine contractual dispute rather than a lawsuit that's directed at harming and foreclosing that 'that's directed at harming and foreclosing outlending that you just left I mean, broadly, yes, but you jeft out an important category of things to look at, which is the conomics of the scheme that Professor Posner alleges.  10 A I think you just left I mean, broadly, yes, but you jeft out an important category of things to look at, which is the conomics of the scheme that Professor Posner alleges.  11 So the economics is really critical to understanding whether the scheme theory makes any sense.  12 A So it's not just the, you know, kind of pattern of facts around the litigation that take a break.  13 THE VIDE	18	which I did before making the assumption. So	18	Right?
21 Q Now, if we go to paragraph 237 of 22 your report. It's on page 152. 23 A Sorry, which paragraph? 24 Q 237. 25 A Thank you.  26 Page 51  1 Q Here, you say, "Counsel for Arm has 2 instructed me to assume that Arm started the 3 Arm v. Qualcomm litigation to exercise its 4 contractual rights, not to foreclose Qualcomm," 5 right? 6 A That's true, and I would encourage 7 you to read the next sentence 8 Q I'm going to. 9 A and what follows. Okay. 10 Q So you have in forming your 11 opinions I just want to understand. 12 In forming your opinions in this 13 report, what I just read, that sentence, that 14 is an assumption that you were asked to make by 15 Arm's counsel, correct? 16 A I mean yes. I mean, I think it's 17 actually an assumption that we reached a point 18 where I recognized the need to address this 19 question of intent, so it is not the case that 19 they said coming into the assignment, "you 20 about the litigation, about the Nuvia ALA, the 21 Qualcomm ALA, testimony, right, and you've 22 said, objectively speaking, looking at all  Page 53  1 this, based on my expertise and my knowledge, this looks more like a lawsuit about genuine 22 contractual dispute rather than a lawsuit 23 that's directed at harming and foreclosing 24 Qualcomm, right? 25 at his, based on my expertise and my knowledge, this looks more like a lawsuit about genuine 26 contractual dispute rather than a lawsuit 27 that's directed at harming and foreclosing 28 this, looks more like a lawsuit about genuine 29 contractual dispute rather than a lawsuit 20 that's directed at harming and foreclosing 29 this looks more like a lawsuit about genuine 20 contractual dispute rather than a lawsuit 21 that's directed at harming and foreclosing 29 this looks more like a lawsuit about genuine 20 contractual dispute rather than a lawsuit 21 that's directed at harming and foreclosing 21 this, based on my expertise and my knowledge, 22 this looks more like a lawsuit about genuine 23 contractual dispute rather than a lawsuit and susumit	19	you had the order reversed in the question.	19	A Correct.
22 your report. It's on page 152. 23 A Sorry, which paragraph? 24 Q 237. 25 A Thank you.  26 Page 51  1 Q Here, you say, "Counsel for Arm has instructed me to assume that Arm started the 3 Arm v. Qualcomm litigation to exercise its 4 contractual rights, not to foreclose Qualcomm," 5 right?  26 A That's true, and I would encourage 7 you to read the next sentence 8 Q I'm going to. 9 A and what follows. Okay. 10 Q So you have in forming your 11 opinions I just want to understand. 12 In forming your opinions in this 13 report, what I just read, that sentence, that 14 is an assumption that we reached a point 18 where I recognized the need to address this 19 question of intent, so it is not the case that they said coming into the assignment, "you 21 assume this and go from there and everything 22 flows from it." 22 done is you've taken a look at this evidence about the litigation, about the Nuvia ALA, the 24 Qualcomm ALA, testimony, right, and you've said, objectively speaking, looking at all 24 Qualcomm ALA, testimony, right, and you've said, objectively speaking, looking at all 24 Qualcomm ALA, testimony, right, and you've said, objectively speaking, looking at all 24 Qualcomm ALA, testimony, right, and you've said, objectively speaking, looking at all 4 dispute rather than a lawsuit 4 this, desired a lawraining and foreclosing 5 Qualcomm, right?  4 this, based on my expertise and my knowledge, this looks more like a lawsuit about genuine contractual dispute rather than a lawsuit 4 that's directed at harming and foreclosing 5 Qualcomm, right?  5 A I think, bou just left I mean, 5 broadly, yes, but you left out an important category of things to look at, which is the economics of the scheme that Professor Posner 10 alleges.  11 So the economics is really 12 critical to understanding whether the scheme 11 theory makes any sense.  12 A So it's not just the, you know, kind of pattern of facts around the litigation that 12 valuated and weighed.  13 MR. DESAI: Okay. Why don't we 14 take a break.  14 A So i	20	Yeah.	20	Q Okay.
22 your report. It's on page 152. 23 A Sorry, which paragraph? 24 Q 237. 25 A Thank you.  26 Page 51  1 Q Here, you say, "Counsel for Arm has instructed me to assume that Arm started the 3 Arm v. Qualcomm litigation to exercise its 4 contractual rights, not to foreclose Qualcomm," 5 right?  2 A That's true, and I would encourage 7 you to read the next sentence 8 Q I'm going to.  2 A A and what follows. Okay.  2 D So you have in forming your opinions I just want to understand.  2 In forming your opinions in this 13 report, what I just read, that sentence, that 14 is an assumption that you were asked to make by 15 Arm's counsel, correct?  2 A I mean yes. I mean, I think it's 17 actually an assumption that we reached a point where I recognized the need to address this 19 question of intent, so it is not the case that they said coming into the assignment, "you assume this and go from there and everything 21 flows from it."  2 done is you've taken a look at this evidence about the litigation, abour the Nuvia ALA, the Qualcomm ALA, testimony, right, and you've said, objectively speaking, looking at all  24 Qualcomm ALA, testimony, right, and you've said, objectively speaking, looking at all  25 this, based on my expertise and my knowledge, this looks more like a lawsuit about genuine contractual dispute rather than a lawsuit  4 that's directed at harming and foreclosing  5 Qualcomm, right.  6 A I think, you just left I mean, broadly, yes, but you left out an important actaegry of things to look at, which is the economics of the scheme that Professor Posner alleges.  11 So the economics is really critical to understanding whether the scheme theory makes any sense.  12 Q Okay.  13 A So it's not just the, you know, kind of pattern of facts around the litigation that I evaluated and weighed.  14 A So it's not just the, you know, who of pattern of facts around the litigation that I evaluated and weighed.  15 A So it's not just the, you know, the 16 of pattern of facts around the litigation that I evaluat	21	Q Now, if we go to paragraph 237 of	21	So is it fair to say what you've
24 Q 237. 25 A Thank you.  Page 51  Q Here, you say, "Counsel for Arm has 2 instructed me to assume that Arm started the 3 Arm v. Qualcomm litigation to exercise its 4 contractual rights, not to foreclose Qualcomm," 5 right?  A That's true, and I would encourage 7 you to read the next sentence 8 Q I'm going to.  Q A and what follows. Okay.  Q So you have in forming your opinions I just want to understand.  In forming your opinions in this 1 report, what I just read, that sentence, that 4 is an assumption that you were asked to make by 15 Arm's counsel, correct?  A I mean yes. I mean, I think it's 17 actually an assumption that we reached a point where I recognized the need to address this 19 question of intent, so it is not the case that 20 they said coming into the assignment, "you 21 assume this and go from there and everything 22 flows from it."  Page 51 this, based on my expertise and my knowledge, this looks more like a lawsuit about genuine 2 this looks more like a lawsuit about genuine 3 contractual dispute rather than a lawsuit 4 that's directed at harming and foreclosing Qualcomm, right?  A I think, based on my expertise and my knowledge, this looks more like a lawsuit about genuine 2 this looks more like a lawsuit about genuine 3 contractual dispute rather than a lawsuit 4 that's directed at harming and foreclosing Qualcomm, right?  A I think, based on my expertise and my knowledge, this looks more like a lawsuit about genuine 2 this looks more like a lawsuit about genuine 3 contractual dispute rather than a lawsuit 4 that's directed at harming and foreclosing Qualcomm, right?  A I this, based on my expertise and my knowledge, this looks more like a lawsuit about genuine 2 this looks more like a lawsuit about genuine 3 contractual dispute rather than a lawsuit that's directed at harming and foreclosing Qualcomm, right?  A I this, based on my expertise and my knowledge, this looks more like a lawsuit about genuine 2 this looks more like a lawsuit about genuine 4 this lawsuit about genuin	22		22	
24 Q 237. 25 A Thank you.  Page 51  1 Q Here, you say, "Counsel for Arm has 2 instructed me to assume that Arm started the 3 Arm v. Qualcomm litigation to exercise its 4 contractual rights, not to foreclose Qualcomm," 5 right?  6 A That's true, and I would encourage 7 you to read the next sentence 8 Q I'm going to.  9 A and what follows. Okay.  10 Q So you have in forming your 0pinions I just want to understand.  11 In forming your opinions in this 1 report, what I just read, that sentence, that is an assumption that you were asked to make by 15 Arm's counsel, correct?  16 A I mean yes. I mean, I think it's 17 actually an assumption that we reached a point where I recognized the need to address this 19 question of intent, so it is not the case that 20 they said coming into the assignment, "you 21 assume this and go from there and everything 21 flows from it."  Page 51 this, based on my expertise and my knowledge, this looks more like a lawsuit about genuine 2 this looks more like a lawsuit about genuine 3 contractual dispute rather than a lawsuit 4 that's directed at harming and foreclosing Qualcomm, right?  6 A I think you just left I mean, 5 broadly, yes, but you left out an important 8 category of things to look at, which is the 9 economics of the scheme that Professor Posner alleges.  10 So the economics is really 1 critical to understanding whether the scheme 1 theory makes any sense.  11 Jevaluated and weighed.  12 MR DESAI: Okay. Why don't we 1 take a break.  13 MR. DESAI: Okay. Why don't we 1 take a break.  14 THE VIDEOGRAPHER: The time is 1 now 10:10, and we are on the record.	23		23	-
Page 51  Q Here, you say, "Counsel for Arm has instructed me to assume that Arm started the 3 Arm v. Qualcomm litigation to exercise its 4 contractual rights, not to foreclose Qualcomm," 5 right? 5 Qualcomm, right? 6 A That's true, and I would encourage 7 you to read the next sentence 8 Q I'm going to. 9 A and what follows. Okay. 9 Can and what I just read, that sentence, that 1 is an assumption that you were asked to make by 15 Arm's counsel, correct? 16 A I mean yes. I mean, I think it's 17 actually an assumption that we reached a point where I recognized the need to address this 19 question of intent, so it is not the case that 20 they said coming into the assignment, "you 21 assume this and go from there and everything 21 flows from it." 10 Page 53 this, based on my expertise and my knowledge, 2 this looks more like a lawsuit about genuine 3 contractual dispute rather than a lawsuit 4 that's directed at harming and foreclosing 5 Qualcomm, right? 6 A I think you just left I mean, 5 broadly, yes, but you left out an important category of things to look at, which is the 9 economics of the scheme that Professor Posner 10 alleges. 11 So the economics is really 12 critical to understanding whether the scheme 13 theory makes any sense. 14 Q Okay. 15 A So it's not just the, you know, kind 16 of pattern of facts around the litigation that 17 I evaluated and weighed. 18 MR. DESAI: Okay. Why don't we 19 take a break. 19 THE VIDEOGRAPHER: The time is 19 now 9:58, and we are off the record. 19 THE VIDEOGRAPHER: The time is 19 now 10:10, and we are on the record.	24		24	=
1 this, based on my expertise and my knowledge, 2 instructed me to assume that Arm started the 3 Arm v. Qualcomm litigation to exercise its 4 contractual rights, not to foreclose Qualcomm," 5 right? 6 A That's true, and I would encourage 7 you to read the next sentence 8 Q I'm going to. 9 A and what follows. Okay. 10 Q So you have in forming your 11 opinions I just want to understand. 12 In forming your opinions in this 13 report, what I just read, that sentence, that 14 is an assumption that you were asked to make by 15 Arm's counsel, correct? 16 A I mean yes. I mean, I think it's 17 actually an assumption that we reached a point 18 where I recognized the need to address this 19 question of intent, so it is not the case that 20 they said coming into the assignment, "you 21 assume this and go from there and everything 22 flows from it." 23 As I just explained, I looked at 24 all the evidence. I reached, you know, the	25	A Thank you.	25	said, objectively speaking, looking at all
1 this, based on my expertise and my knowledge, 2 instructed me to assume that Arm started the 3 Arm v. Qualcomm litigation to exercise its 4 contractual rights, not to foreclose Qualcomm," 5 right? 6 A That's true, and I would encourage 7 you to read the next sentence 8 Q I'm going to. 9 A and what follows. Okay. 10 Q So you have in forming your 11 opinions I just want to understand. 12 In forming your opinions in this 13 report, what I just read, that sentence, that 14 is an assumption that you were asked to make by 15 Arm's counsel, correct? 16 A I mean yes. I mean, I think it's 17 actually an assumption that we reached a point 18 where I recognized the need to address this 19 question of intent, so it is not the case that 20 they said coming into the assignment, "you 21 assume this and go from there and everything 22 flows from it." 23 As I just explained, I looked at 24 all the evidence. I reached, you know, the		Page 51		Page 53
3 Arm v. Qualcomm litigation to exercise its 4 contractual rights, not to foreclose Qualcomm," 5 right? 6 A That's true, and I would encourage 7 you to read the next sentence 8 Q I'm going to. 9 A and what follows. Okay. 10 Q So you have in forming your 11 opinions I just want to understand. 12 In forming your opinions in this 13 report, what I just read, that sentence, that 14 is an assumption that you were asked to make by 15 Arm's counsel, correct? 16 A I mean yes. I mean, I think it's 17 actually an assumption that we reached a point 18 where I recognized the need to address this 19 question of intent, so it is not the case that 20 they said coming into the assignment, "you 21 assume this and go from there and everything 22 flows from it." 23 As I just explained, I looked at 24 all the evidence. I reached, you know, the	1		1	= -
4 contractual rights, not to foreclose Qualcomm," 5 right? 6 A That's true, and I would encourage 7 you to read the next sentence 8 Q I'm going to. 9 A and what follows. Okay. 10 Q So you have in forming your 11 opinions I just want to understand. 12 In forming your opinions in this 13 report, what I just read, that sentence, that 14 is an assumption that you were asked to make by 15 Arm's counsel, correct? 16 A I think you just left I mean, 7 broadly, yes, but you left out an important 8 category of things to look at, which is the 9 economics of the scheme that Professor Posner 10 alleges. 11 So the economics is really 12 critical to understanding whether the scheme 13 theory makes any sense. 14 Q Okay. 15 A So it's not just the, you know, kind 16 of pattern of facts around the litigation that 17 I evaluated and weighed. 18 MR. DESAI: Okay. Why don't we 19 question of intent, so it is not the case that 20 they said coming into the assignment, "you 21 assume this and go from there and everything 22 flows from it." 23 As I just explained, I looked at 24 all the evidence. I reached, you know, the	2	instructed me to assume that Arm started the	2	this looks more like a lawsuit about genuine
5 right? 6 A That's true, and I would encourage 7 you to read the next sentence 8 Q I'm going to. 9 A and what follows. Okay. 10 Q So you have in forming your 11 opinions I just want to understand. 12 In forming your opinions in this 13 report, what I just read, that sentence, that 14 is an assumption that you were asked to make by 15 Arm's counsel, correct? 16 A I mean yes. I mean, I think it's 17 actually an assumption that we reached a point 18 where I recognized the need to address this 19 question of intent, so it is not the case that 20 they said coming into the assignment, "you 21 assume this and go from there and everything 22 flows from it." 25 Qualcomm, right? 6 A I think you just left I mean, 7 broadly, yes, but you left out an important 8 category of things to look at, which is the 9 economics of the scheme that Professor Posner 10 alleges. 11 So the economics is really 12 critical to understanding whether the scheme 13 theory makes any sense. 14 Q Okay. 15 A So it's not just the, you know, kind 16 of pattern of facts around the litigation that 17 I evaluated and weighed. 18 MR. DESAI: Okay. Why don't we 19 take a break. 20 they said coming into the assignment, "you 21 assume this and go from there and everything 22 flows from it." 23 As I just explained, I looked at 24 all the evidence. I reached, you know, the	3	Arm v. Qualcomm litigation to exercise its	3	contractual dispute rather than a lawsuit
6 A That's true, and I would encourage 7 you to read the next sentence 8 Q I'm going to. 9 A and what follows. Okay. 10 Q So you have in forming your 11 opinions I just want to understand. 12 In forming your opinions in this 13 report, what I just read, that sentence, that 14 is an assumption that you were asked to make by 15 Arm's counsel, correct? 16 A I mean yes. I mean, I think it's 17 actually an assumption that we reached a point 18 where I recognized the need to address this 19 question of intent, so it is not the case that 20 they said coming into the assignment, "you 21 assume this and go from there and everything 22 flows from it." 23 As I just explained, I looked at 24 all the evidence. I reached, you know, the	4	contractual rights, not to foreclose Qualcomm,"	4	that's directed at harming and foreclosing
7 you to read the next sentence 8 Q I'm going to. 9 A and what follows. Okay. 10 Q So you have in forming your 11 opinions I just want to understand. 12 In forming your opinions in this 13 report, what I just read, that sentence, that 14 is an assumption that you were asked to make by 15 Arm's counsel, correct? 16 A I mean yes. I mean, I think it's 17 actually an assumption that we reached a point 18 where I recognized the need to address this 19 question of intent, so it is not the case that 20 they said coming into the assignment, "you 21 assume this and go from there and everything 22 flows from it." 23 As I just explained, I looked at 24 all the evidence. I reached, you know, the	5	right?	5	Qualcomm, right?
8 Q I'm going to. 9 A and what follows. Okay. 10 Q So you have in forming your 11 opinions I just want to understand. 12 In forming your opinions in this 13 report, what I just read, that sentence, that 14 is an assumption that you were asked to make by 15 Arm's counsel, correct? 16 A I mean yes. I mean, I think it's 17 actually an assumption that we reached a point 18 where I recognized the need to address this 19 question of intent, so it is not the case that 20 they said coming into the assignment, "you 21 assume this and go from there and everything 22 flows from it." 23 As I just explained, I looked at 24 all the evidence. I reached, you know, the  8 category of things to look at, which is the 9 economics of the scheme that Professor Posner 10 alleges. 11 So the economics is really 12 critical to understanding whether the scheme 13 theory makes any sense. 14 Q Okay. 15 A So it's not just the, you know, kind 16 of pattern of facts around the litigation that 17 I evaluated and weighed. 18 MR. DESAI: Okay. Why don't we 19 take a break. 20 THE VIDEOGRAPHER: The time is 21 now 9:58, and we are off the record. 22 (Recess.) 23 THE VIDEOGRAPHER: The time is 24 all the evidence. I reached, you know, the	6	A That's true, and I would encourage	6	A I think you just left I mean,
9 A and what follows. Okay. 10 Q So you have in forming your 11 opinions I just want to understand. 12 In forming your opinions in this 13 report, what I just read, that sentence, that 14 is an assumption that you were asked to make by 15 Arm's counsel, correct? 16 A I mean yes. I mean, I think it's 17 actually an assumption that we reached a point 18 where I recognized the need to address this 19 question of intent, so it is not the case that 20 they said coming into the assignment, "you 21 assume this and go from there and everything 22 flows from it." 23 As I just explained, I looked at 24 all the evidence. I reached, you know, the  9 economics of the scheme that Professor Posner 10 alleges. 11 So the economics is really 12 critical to understanding whether the scheme 13 theory makes any sense. 14 Q Okay. 15 A So it's not just the, you know, kind 16 of pattern of facts around the litigation that 17 I evaluated and weighed. 18 MR. DESAI: Okay. Why don't we 19 take a break. 20 THE VIDEOGRAPHER: The time is 21 now 9:58, and we are off the record. 22 (Recess.) 23 THE VIDEOGRAPHER: The time is 24 all the evidence. I reached, you know, the	7	you to read the next sentence	7	broadly, yes, but you left out an important
10 Q So you have in forming your 11 opinions I just want to understand. 12 In forming your opinions in this 13 report, what I just read, that sentence, that 14 is an assumption that you were asked to make by 15 Arm's counsel, correct? 16 A I mean yes. I mean, I think it's 17 actually an assumption that we reached a point 18 where I recognized the need to address this 19 question of intent, so it is not the case that 20 they said coming into the assignment, "you 21 assume this and go from there and everything 22 flows from it." 23 As I just explained, I looked at 24 all the evidence. I reached, you know, the  10 alleges. 11 So the economics is really 12 critical to understanding whether the scheme 13 theory makes any sense. 14 Q Okay. 15 A So it's not just the, you know, kind 16 of pattern of facts around the litigation that 17 I evaluated and weighed. 18 MR. DESAI: Okay. Why don't we 19 take a break. 20 THE VIDEOGRAPHER: The time is 21 now 9:58, and we are off the record. 22 (Recess.) 23 THE VIDEOGRAPHER: The time is 24 now 10:10, and we are on the record.	8	Q I'm going to.	8	category of things to look at, which is the
11 opinions I just want to understand. 12 In forming your opinions in this 13 report, what I just read, that sentence, that 14 is an assumption that you were asked to make by 15 Arm's counsel, correct? 16 A I mean yes. I mean, I think it's 17 actually an assumption that we reached a point 18 where I recognized the need to address this 19 question of intent, so it is not the case that 20 they said coming into the assignment, "you 21 assume this and go from there and everything 22 flows from it." 23 As I just explained, I looked at 24 all the evidence. I reached, you know, the  11 So the economics is really 12 critical to understanding whether the scheme 13 theory makes any sense. 14 Q Okay. 15 A So it's not just the, you know, kind 16 of pattern of facts around the litigation that 17 I evaluated and weighed. 18 MR. DESAI: Okay. Why don't we 19 take a break. 20 THE VIDEOGRAPHER: The time is 21 now 9:58, and we are off the record. 22 (Recess.) 23 THE VIDEOGRAPHER: The time is 24 now 10:10, and we are on the record.	9	A and what follows. Okay.	9	economics of the scheme that Professor Posner
11 opinions I just want to understand. 12 In forming your opinions in this 13 report, what I just read, that sentence, that 14 is an assumption that you were asked to make by 15 Arm's counsel, correct? 16 A I mean yes. I mean, I think it's 17 actually an assumption that we reached a point 18 where I recognized the need to address this 19 question of intent, so it is not the case that 20 they said coming into the assignment, "you 21 assume this and go from there and everything 22 flows from it." 23 As I just explained, I looked at 24 all the evidence. I reached, you know, the  11 So the economics is really 12 critical to understanding whether the scheme 13 theory makes any sense. 14 Q Okay. 15 A So it's not just the, you know, kind 16 of pattern of facts around the litigation that 17 I evaluated and weighed. 18 MR. DESAI: Okay. Why don't we 19 take a break. 20 THE VIDEOGRAPHER: The time is 21 now 9:58, and we are off the record. (Recess.) 22 (Recess.) 23 THE VIDEOGRAPHER: The time is 24 now 10:10, and we are on the record.	10	Q So you have in forming your	10	alleges.
In forming your opinions in this report, what I just read, that sentence, that is an assumption that you were asked to make by Arm's counsel, correct?  A I mean yes. I mean, I think it's actually an assumption that we reached a point where I recognized the need to address this question of intent, so it is not the case that theory makes any sense.  A So it's not just the, you know, kind of pattern of facts around the litigation that I evaluated and weighed.  MR. DESAI: Okay. Why don't we makes any sense. It was a so it's not just the, you know, kind If where I recognized the need to address this makes any sense. It was a so it's not just the, you know, kind If was a breats around the litigation that I evaluated and weighed. If was a break. If was a break was a break was a break. If was a break was a break was a break. If was a break was	11		11	So the economics is really
13 report, what I just read, that sentence, that 14 is an assumption that you were asked to make by 15 Arm's counsel, correct? 16 A I mean yes. I mean, I think it's 17 actually an assumption that we reached a point 18 where I recognized the need to address this 19 question of intent, so it is not the case that 20 they said coming into the assignment, "you 21 assume this and go from there and everything 22 flows from it." 23 As I just explained, I looked at 24 all the evidence. I reached, you know, the  13 theory makes any sense. 14 Q Okay. 15 A So it's not just the, you know, kind 16 of pattern of facts around the litigation that 17 I evaluated and weighed. 18 MR. DESAI: Okay. Why don't we 19 take a break. 20 THE VIDEOGRAPHER: The time is 21 now 9:58, and we are off the record. 22 (Recess.) 23 THE VIDEOGRAPHER: The time is 24 now 10:10, and we are on the record.	12	In forming your opinions in this	12	
14 is an assumption that you were asked to make by 15 Arm's counsel, correct? 16 A I mean yes. I mean, I think it's 17 actually an assumption that we reached a point 18 where I recognized the need to address this 19 question of intent, so it is not the case that 20 they said coming into the assignment, "you 21 assume this and go from there and everything 22 flows from it." 23 As I just explained, I looked at 24 all the evidence. I reached, you know, the  14 Q Okay. 15 A So it's not just the, you know, kind 16 of pattern of facts around the litigation that 17 I evaluated and weighed. 18 MR. DESAI: Okay. Why don't we 19 take a break. 20 THE VIDEOGRAPHER: The time is 21 now 9:58, and we are off the record. 22 (Recess.) 23 THE VIDEOGRAPHER: The time is 24 now 10:10, and we are on the record.	13		13	theory makes any sense.
16 A I mean yes. I mean, I think it's 17 actually an assumption that we reached a point 18 where I recognized the need to address this 19 question of intent, so it is not the case that 20 they said coming into the assignment, "you 21 assume this and go from there and everything 22 flows from it." 23 As I just explained, I looked at 24 all the evidence. I reached, you know, the 16 of pattern of facts around the litigation that 17 I evaluated and weighed. 18 MR. DESAI: Okay. Why don't we 19 take a break. 20 THE VIDEOGRAPHER: The time is 21 now 9:58, and we are off the record. 22 (Recess.) 23 THE VIDEOGRAPHER: The time is 24 now 10:10, and we are on the record.	14	is an assumption that you were asked to make by	14	Q Okay.
16 A I mean yes. I mean, I think it's 17 actually an assumption that we reached a point 18 where I recognized the need to address this 19 question of intent, so it is not the case that 20 they said coming into the assignment, "you 21 assume this and go from there and everything 22 flows from it." 23 As I just explained, I looked at 24 all the evidence. I reached, you know, the 16 of pattern of facts around the litigation that 17 I evaluated and weighed. 18 MR. DESAI: Okay. Why don't we 19 take a break. 20 THE VIDEOGRAPHER: The time is 21 now 9:58, and we are off the record. 22 (Recess.) 23 THE VIDEOGRAPHER: The time is 24 now 10:10, and we are on the record.	15	· · · · · · · · · · · · · · · · · · ·	15	- •
17 actually an assumption that we reached a point 18 where I recognized the need to address this 19 question of intent, so it is not the case that 20 they said coming into the assignment, "you 21 assume this and go from there and everything 22 flows from it." 23 As I just explained, I looked at 24 all the evidence. I reached, you know, the  17 I evaluated and weighed. 18 MR. DESAI: Okay. Why don't we 19 take a break. 20 THE VIDEOGRAPHER: The time is 21 now 9:58, and we are off the record. 22 (Recess.) 23 THE VIDEOGRAPHER: The time is 24 now 10:10, and we are on the record.	16		16	
where I recognized the need to address this question of intent, so it is not the case that they said coming into the assignment, "you assume this and go from there and everything flows from it."  As I just explained, I looked at all the evidence. I reached, you know, the  MR. DESAI: Okay. Why don't we take a break. THE VIDEOGRAPHER: The time is (Recess.) THE VIDEOGRAPHER: The time is and THE VIDEOGRAPHER: The t		· · · · · · · · · · · · · · · · · · ·	17	•
19 question of intent, so it is not the case that 20 they said coming into the assignment, "you 21 assume this and go from there and everything 22 flows from it." 23 As I just explained, I looked at 24 all the evidence. I reached, you know, the 29 take a break. 20 THE VIDEOGRAPHER: The time is 21 now 9:58, and we are off the record. 22 (Recess.) 23 THE VIDEOGRAPHER: The time is 24 now 10:10, and we are on the record.			18	
20 they said coming into the assignment, "you 21 assume this and go from there and everything 22 flows from it." 23 As I just explained, I looked at 24 all the evidence. I reached, you know, the 20 THE VIDEOGRAPHER: The time is 21 now 9:58, and we are off the record. 22 (Recess.) 23 THE VIDEOGRAPHER: The time is 24 now 10:10, and we are on the record.	19		19	· · · · · · · · · · · · · · · · · · ·
21 assume this and go from there and everything 22 flows from it." 23 As I just explained, I looked at 24 all the evidence. I reached, you know, the 21 now 9:58, and we are off the record. 22 (Recess.) 23 THE VIDEOGRAPHER: The time is 24 now 10:10, and we are on the record.	20		20	THE VIDEOGRAPHER: The time is
22 flows from it." 23 As I just explained, I looked at 24 all the evidence. I reached, you know, the 22 (Recess.) 23 THE VIDEOGRAPHER: The time is 24 now 10:10, and we are on the record.				now 9:58, and we are off the record.
23 As I just explained, I looked at 24 all the evidence. I reached, you know, the 24 now 10:10, and we are on the record.			1	
24 all the evidence. I reached, you know, the 24 now 10:10, and we are on the record.	23	As I just explained, I looked at	23	
	24		24	now 10:10, and we are on the record.
	25	conclusion or was close to reaching the	25	BY MR. DESAI:

14 (Pages 50 - 53)

	Page 86		Page 88
1	license to expire to do something.	1	When you say you I just want
2	And the statement about enemies	2	to get some clarity on when you said you've
3	just sort of suggests that the two companies,	3	seen these, because it's not clear to me.
4	although they have deep business relationships,	4	A Okay.
5	and I would expect those to continue, are in a	5	Q Is it after you served this report?
6	dispute.	6	A I don't know if I saw them before I
7	Q Okay.	7	served this report.
8	In making the assumption that	8	I had access to every document
9	we've talked about now that's written in your	9	that was produced in the case. As you know,
10	report that the litigation reflected Arm's	10	there are many of them.
11	views genuine views about contractual	11	Q Yeah.
12	obligations and not an intent to harm or	12	A I reviewed many chats. It's likely I
13	foreclose Qualcomm, you didn't expressly	13	saw these. I don't know. I do recall seeing
14	consider these internal chats as part of making	14	the language that you were referring to in
15	that assumption, right?	15	preparing for the deposition.
16	A I didn't need to for the reasons I	16	Does that clarify the timeline?
17	explained earlier about what the purpose of the	17	Q Think so.
18	assumption is	18	And you definitely did not speak
19	Q Why don't we get to whether you	19	with Mr. Williamson about these, right?
20	needed to or not just first answer the	20	A Correct.
21	question about whether you did consider them,	21	Q I'm about to switch topics, so if we
22	and then I can ask you the next question about	22	want to take our break, now's a good time.
23	whether you needed to.	23	A Whatever.
24	A Well, there's two parts to consider.	24	Q Yeah, let's take a quick break.
25	I didn't cite them. I think that might be your	25	MS. POHL: Okay.
	Page 87		Page 89
1	question.	1	A Yeah.
2	But, as I said, I've reviewed	2	THE VIDEOGRAPHER: The time is
3	them and I didn't it doesn't change my views	3	now 10:57. We are off the record.
4	at all.	4	(Recess.)
5	Q Okay.	5	THE VIDEOGRAPHER: The time is
6	Today after reviewing them, it's	6	now 11:12, and we are on the record.
7	your view that they don't change your opinions,	7	BY MR. DESAI:
8	right?	8	Q It is your opinion that
9	A Today and when I had seen them		
10	before. Like I said, I I had seen the parts		?
11	of these things that were "struggling not to	11	A Yes.
12	be pissed" and what was the other quote?	12	Q Okay.
13	"go full bore," thought about that. No, it	13	Do you have an opinion as to
14	didn't change my views.	14	whether x86 or RISC-V are currently options
15	Q When did you think about those? When	15	available for Qualcomm to use to build custom
16	did you see these and think about them in	16	cores?
17	forming these opinions?	17	A Qualcomm is actively using the RISC-V
18	A No, no, you misapprehend.	18	ISA in some of its products.
19	Q Oh, okay.	19	Q Okay.
20	A If I used these, if I relied on these	20	How about x86?
21	to form my opinions, I would have cited them in	21	A X86, to my knowledge, is only
22	my report. I saw them at some point, I think,	22	available via Intel and AMD.
23	in preparation for deposition. I considered	23	Q Now, I assume your opinion about
1			
24 25	them. They didn't change my views.  Q Okay.	24 25	whether RISC-V is an option available to Qualcomm is not based on any analysis of RISC-V

23 (Pages 86 - 89)

1	Page 90	1	Page 92
$\begin{vmatrix} 1 \\ 2 \end{vmatrix}$	from a technical perspective, right?  A Correct.	1	mobile, compute, which is PCs and laptops, data center, IOT.
3	Q All right.	$\begin{vmatrix} 2 \\ 3 \end{vmatrix}$	So there's a figure that might
4	So is it is your opinion	4	be useful in my report that speaks to here
5	based on your assessment of whether RISC-V is a	5	it is. This is at page 46 in my report. This
6	commercially viable option for Qualcomm to use	6	is an Arm figure that shows different end use.
7	to build cores?	7	Automotive. I believe that RISC-V is being
8	A Well, Qualcomm says that they I've	8	used in the IOT and embedded market and is
9	seen statements by Qualcomm saying that they've	9	being actively developed for products in many
10	shipped, I think it's a billion embedded,	10	of these other segments that may not be
11	low-power, you know, sort of in some	11	currently sold.
12	markets, they have a billion devices with	12	At the same time, a chip you
13	RISC-V.	13	know, a completed chip has many components,
14	Q What markets?	14	okay? And some of those components in chips
15	A Like I said, I think it was like	15	that are sold into other markets, like consumer
16	embedded systems, I don't maybe automotive.	16	electronics or automotive, maybe mobile, might
17	Sort of microcontrollers, I think.	17	use a RISC-V architecture for part of the
18	Q So in forming your opinions about	18	complete solution, is my understanding.
19	whether RISC-V is currently an option for	19	I haven't looked at the question
20	Qualcomm, did you assess what segments or	20	of is there some marketed device somewhere that
21	markets RISC-V is actually being used in?	21	uses RISC-V as a component but not the core CPU
22	A Yes, that's something that I looked	22	on a system on a chip solution in mobile or
23	at.	23	automotive. I just understand it might happen.
24	Q Okay.	24	So that's one way to interpret your question.
25	And so which segments?	25	The other is, you know, sort of
	Page 91		Page 93
1	A I just well, I looked I'm aware	1	where is RISC-V being used as the CPU. I think
2	that RISC-V has been deployed in devices, I	2	it's IOT, embedded. It's the sort as I
3	think in, like, embedded systems. That's kind	3	said, it's the embedded systems.
4	of the main one where I think it's and I	4	Q All right.
5	think it might be on aspects of systems on	5	Do you have an understanding
6	chips in other markets, but it's something I	6	what an embedded system is?
7	evaluated.	7	A It is a I think sometimes it's
8	Q Okay.	8	like well, it is a custom solution used in
9	Well, you said, "I think it	9	certain kinds of products, right?
10	might be on aspects of systems on chips in	10	So many, many products need a
11	other markets."	11	chip these days. My washing machine, my
12	Can you be more specific? If	12	refrigerator, toys, okay? Those chips perform
13	you need to look at your report, that's fine,	13	a wide variety of functions that are specific
14	too, but	14	to the products, and those kinds of chips are
15	A Let's be specific about what we mean,	15	embedded systems.
16	right? So I think well, let me look at	16	Q Are there any other ISAs besides x86
17	this.	17	and RISC-V, in your opinion, that Arm faces
18	There are two ways that I think	18	competition from?
19	about answering your question. One is that	19	A I would say presently,
20	there are markets for completed chipsets that		
21	are used in products.		. There are other
1	- · · · · · · · · · · · · · · · · · · ·		ICO A significant the significant signific
22	Okay? In Professor Posner's	22	ISAs that I'm aware of that are in certain
22 23	report he refers to those, I think, as	23	segments, MIPS, for instance.
22			

24 (Pages 90 - 93)

	Page 98		Page 100
1	about accelerating the development of RISC-V	1	Q All right.
2	A Mm-hmm.	2	And that's unlike the Arm ISA,
3	Q have you given do you have an	3	right?
4	opinion as to what you mean in terms of how	4	A Correct.
5	long that would take, like accelerating,	5	Q Companies like Qualcomm that design
6	meaning when would Qualcomm be able to actually	6	Arm-based CPUs or use Arm off-the-shelf cores
7	produce a chip with RISC-V for a data center?	7	must pay royalties to Arm under either an ALA
8	A So I can't do that as a technical	8	or a TLA, right?
9	matter, and I understand that there are many	9	A Yes. Arm charges for the
10	kinds of investments needed to improve RISC-V	10	intellectual property and its architecture
11	as an architectural substitute.	11	whether you access it through cores or through
		12	something like an ALA, so that's correct.
		13	Q Do you know how long RISC-V has been
		14	available?
		15	A What do you mean by "available"? I'm
16	Q What kind of investments would be	16	not sure I understand.
17	needed?	17	Q How long has RISC-V been available
18	A To to do what? Sorry.	18	for a company like Qualcomm to build a chip
19	Q To to produce RISC-V as a as	19	with?
20	a an architectural substitute in a segment	20	A I'm still not sure I understand.
21	like mobile.	21	Available to build a chip?
22	A Investments in designing hardware	22	Q Okay.
23	that runs on the RISC-V architecture, and	23	You you've we've
24	investments in software, such as compilers,	24	already maybe I'm using the wrong words.
25	that allow software developers to write code	25	A Okay.
	Page 99		Page 101
1	d a d a d d DICCIA		
	that runs on chips that implement the RISC-V	1	Q I mean, you've you've already, I
2	architecture.	1 2	think, said that Qualcomm has made a billion
	architecture.  Q Anything else?		think, said that Qualcomm has made a billion chips with RISC-V, right? Didn't you say that
2 3 4	architecture.  Q Anything else?  A At a high level, those are the types	2 3 4	think, said that Qualcomm has made a billion chips with RISC-V, right? Didn't you say that earlier?
2 3	architecture.  Q Anything else?  A At a high level, those are the types of engineering investments involved.	2 3 4 5	think, said that Qualcomm has made a billion chips with RISC-V, right? Didn't you say that earlier?  A In the embedded segment, yes.
2 3 4 5 6	architecture.  Q Anything else?  A At a high level, those are the types of engineering investments involved.  Q Would there would you need other	2 3 4 5 6	think, said that Qualcomm has made a billion chips with RISC-V, right? Didn't you say that earlier?  A In the embedded segment, yes.  Q Okay.
2 3 4 5 6 7	architecture.  Q Anything else?  A At a high level, those are the types of engineering investments involved.  Q Would there would you need other investments besides engineering investments?	2 3 4 5 6 7	think, said that Qualcomm has made a billion chips with RISC-V, right? Didn't you say that earlier?  A In the embedded segment, yes.  Q Okay.  How long has that been a
2 3 4 5 6 7 8	architecture.  Q Anything else?  A At a high level, those are the types of engineering investments involved.  Q Would there would you need other investments besides engineering investments?  A Well, as a practical matter, you do	2 3 4 5 6 7 8	think, said that Qualcomm has made a billion chips with RISC-V, right? Didn't you say that earlier?  A In the embedded segment, yes. Q Okay. How long has that been a possibility for Qualcomm to use RISC-V to build
2 3 4 5 6 7 8 9	architecture.  Q Anything else? A At a high level, those are the types of engineering investments involved. Q Would there would you need other investments besides engineering investments? A Well, as a practical matter, you do marketing. There would be the question, you	2 3 4 5 6 7 8 9	think, said that Qualcomm has made a billion chips with RISC-V, right? Didn't you say that earlier?  A In the embedded segment, yes. Q Okay. How long has that been a possibility for Qualcomm to use RISC-V to build a chip?
2 3 4 5 6 7 8 9	architecture.  Q Anything else? A At a high level, those are the types of engineering investments involved. Q Would there would you need other investments besides engineering investments? A Well, as a practical matter, you do marketing. There would be the question, you know, sort of depends	2 3 4 5 6 7 8 9	think, said that Qualcomm has made a billion chips with RISC-V, right? Didn't you say that earlier?  A In the embedded segment, yes. Q Okay. How long has that been a possibility for Qualcomm to use RISC-V to build a chip? A So RISC-V is an outgrowth of an
2 3 4 5 6 7 8 9 10	architecture.  Q Anything else? A At a high level, those are the types of engineering investments involved. Q Would there would you need other investments besides engineering investments? A Well, as a practical matter, you do marketing. There would be the question, you know, sort of depends Yes, there are a variety of	2 3 4 5 6 7 8 9 10 11	think, said that Qualcomm has made a billion chips with RISC-V, right? Didn't you say that earlier?  A In the embedded segment, yes. Q Okay. How long has that been a possibility for Qualcomm to use RISC-V to build a chip? A So RISC-V is an outgrowth of an academic project to develop reduced instruction
2 3 4 5 6 7 8 9 10 11 12	architecture.  Q Anything else? A At a high level, those are the types of engineering investments involved. Q Would there would you need other investments besides engineering investments? A Well, as a practical matter, you do marketing. There would be the question, you know, sort of depends Yes, there are a variety of kinds of investments. We can sort of talk	2 3 4 5 6 7 8 9 10 11 12	think, said that Qualcomm has made a billion chips with RISC-V, right? Didn't you say that earlier?  A In the embedded segment, yes. Q Okay. How long has that been a possibility for Qualcomm to use RISC-V to build a chip? A So RISC-V is an outgrowth of an academic project to develop reduced instruction set architectures.
2 3 4 5 6 7 8 9 10 11 12 13	architecture.  Q Anything else? A At a high level, those are the types of engineering investments involved. Q Would there would you need other investments besides engineering investments? A Well, as a practical matter, you do marketing. There would be the question, you know, sort of depends Yes, there are a variety of kinds of investments. We can sort of talk about many categories, but I think the key ones	2 3 4 5 6 7 8 9 10 11 12 13	think, said that Qualcomm has made a billion chips with RISC-V, right? Didn't you say that earlier?  A In the embedded segment, yes. Q Okay. How long has that been a possibility for Qualcomm to use RISC-V to build a chip? A So RISC-V is an outgrowth of an academic project to develop reduced instruction set architectures. Qualcomm or others could have
2 3 4 5 6 7 8 9 10 11 12 13 14	architecture.  Q Anything else? A At a high level, those are the types of engineering investments involved. Q Would there would you need other investments besides engineering investments? A Well, as a practical matter, you do marketing. There would be the question, you know, sort of depends Yes, there are a variety of kinds of investments. We can sort of talk about many categories, but I think the key ones are the engineering investments that I just	2 3 4 5 6 7 8 9 10 11 12 13 14	think, said that Qualcomm has made a billion chips with RISC-V, right? Didn't you say that earlier?  A In the embedded segment, yes. Q Okay. How long has that been a possibility for Qualcomm to use RISC-V to build a chip? A So RISC-V is an outgrowth of an academic project to develop reduced instruction set architectures. Qualcomm or others could have adopted early variants of it in a very
2 3 4 5 6 7 8 9 10 11 12 13 14 15	architecture.  Q Anything else? A At a high level, those are the types of engineering investments involved. Q Would there would you need other investments besides engineering investments? A Well, as a practical matter, you do marketing. There would be the question, you know, sort of depends Yes, there are a variety of kinds of investments. We can sort of talk about many categories, but I think the key ones are the engineering investments that I just described.	2 3 4 5 6 7 8 9 10 11 12 13 14 15	think, said that Qualcomm has made a billion chips with RISC-V, right? Didn't you say that earlier?  A In the embedded segment, yes. Q Okay. How long has that been a possibility for Qualcomm to use RISC-V to build a chip? A So RISC-V is an outgrowth of an academic project to develop reduced instruction set architectures. Qualcomm or others could have adopted early variants of it in a very experimental way many years ago. I can't
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	architecture.  Q Anything else? A At a high level, those are the types of engineering investments involved. Q Would there would you need other investments besides engineering investments? A Well, as a practical matter, you do marketing. There would be the question, you know, sort of depends Yes, there are a variety of kinds of investments. We can sort of talk about many categories, but I think the key ones are the engineering investments that I just described. Q Okay.	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	think, said that Qualcomm has made a billion chips with RISC-V, right? Didn't you say that earlier?  A In the embedded segment, yes. Q Okay. How long has that been a possibility for Qualcomm to use RISC-V to build a chip? A So RISC-V is an outgrowth of an academic project to develop reduced instruction set architectures. Qualcomm or others could have adopted early variants of it in a very experimental way many years ago. I can't recall exactly what the start date was. I
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	architecture.  Q Anything else? A At a high level, those are the types of engineering investments involved. Q Would there would you need other investments besides engineering investments? A Well, as a practical matter, you do marketing. There would be the question, you know, sort of depends Yes, there are a variety of kinds of investments. We can sort of talk about many categories, but I think the key ones are the engineering investments that I just described. Q Okay. Now, you understand that RISC-V	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	think, said that Qualcomm has made a billion chips with RISC-V, right? Didn't you say that earlier?  A In the embedded segment, yes. Q Okay. How long has that been a possibility for Qualcomm to use RISC-V to build a chip? A So RISC-V is an outgrowth of an academic project to develop reduced instruction set architectures. Qualcomm or others could have adopted early variants of it in a very experimental way many years ago. I can't recall exactly what the start date was. I think it was early 2000s or something like
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	architecture.  Q Anything else? A At a high level, those are the types of engineering investments involved. Q Would there would you need other investments besides engineering investments? A Well, as a practical matter, you do marketing. There would be the question, you know, sort of depends Yes, there are a variety of kinds of investments. We can sort of talk about many categories, but I think the key ones are the engineering investments that I just described. Q Okay. Now, you understand that RISC-V is open source and freely available, right?	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	think, said that Qualcomm has made a billion chips with RISC-V, right? Didn't you say that earlier?  A In the embedded segment, yes. Q Okay. How long has that been a possibility for Qualcomm to use RISC-V to build a chip? A So RISC-V is an outgrowth of an academic project to develop reduced instruction set architectures. Qualcomm or others could have adopted early variants of it in a very experimental way many years ago. I can't recall exactly what the start date was. I think it was early 2000s or something like that.
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	architecture.  Q Anything else? A At a high level, those are the types of engineering investments involved. Q Would there would you need other investments besides engineering investments? A Well, as a practical matter, you do marketing. There would be the question, you know, sort of depends Yes, there are a variety of kinds of investments. We can sort of talk about many categories, but I think the key ones are the engineering investments that I just described. Q Okay. Now, you understand that RISC-V is open source and freely available, right? A Yes.	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19	think, said that Qualcomm has made a billion chips with RISC-V, right? Didn't you say that earlier?  A In the embedded segment, yes. Q Okay. How long has that been a possibility for Qualcomm to use RISC-V to build a chip? A So RISC-V is an outgrowth of an academic project to develop reduced instruction set architectures. Qualcomm or others could have adopted early variants of it in a very experimental way many years ago. I can't recall exactly what the start date was. I think it was early 2000s or something like that.  As a commercial endeavor, RISC-V
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	architecture.  Q Anything else? A At a high level, those are the types of engineering investments involved. Q Would there would you need other investments besides engineering investments? A Well, as a practical matter, you do marketing. There would be the question, you know, sort of depends Yes, there are a variety of kinds of investments. We can sort of talk about many categories, but I think the key ones are the engineering investments that I just described. Q Okay. Now, you understand that RISC-V is open source and freely available, right? A Yes. Q In other words, there is no license	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	think, said that Qualcomm has made a billion chips with RISC-V, right? Didn't you say that earlier?  A In the embedded segment, yes. Q Okay. How long has that been a possibility for Qualcomm to use RISC-V to build a chip? A So RISC-V is an outgrowth of an academic project to develop reduced instruction set architectures. Qualcomm or others could have adopted early variants of it in a very experimental way many years ago. I can't recall exactly what the start date was. I think it was early 2000s or something like that.  As a commercial endeavor, RISC-V has only taken off in the last several years.
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	architecture.  Q Anything else? A At a high level, those are the types of engineering investments involved. Q Would there would you need other investments besides engineering investments? A Well, as a practical matter, you do marketing. There would be the question, you know, sort of depends Yes, there are a variety of kinds of investments. We can sort of talk about many categories, but I think the key ones are the engineering investments that I just described. Q Okay. Now, you understand that RISC-V is open source and freely available, right? A Yes. Q In other words, there is no license fee that a chip maker needs to pay in order to	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	think, said that Qualcomm has made a billion chips with RISC-V, right? Didn't you say that earlier?  A In the embedded segment, yes. Q Okay. How long has that been a possibility for Qualcomm to use RISC-V to build a chip? A So RISC-V is an outgrowth of an academic project to develop reduced instruction set architectures. Qualcomm or others could have adopted early variants of it in a very experimental way many years ago. I can't recall exactly what the start date was. I think it was early 2000s or something like that.  As a commercial endeavor, RISC-V has only taken off in the last several years. Again, I didn't investigate, like, the precise
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	architecture.  Q Anything else? A At a high level, those are the types of engineering investments involved. Q Would there would you need other investments besides engineering investments? A Well, as a practical matter, you do marketing. There would be the question, you know, sort of depends Yes, there are a variety of kinds of investments. We can sort of talk about many categories, but I think the key ones are the engineering investments that I just described. Q Okay. Now, you understand that RISC-V is open source and freely available, right? A Yes. Q In other words, there is no license fee that a chip maker needs to pay in order to design a CPU that is based on RISC-V, right?	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	think, said that Qualcomm has made a billion chips with RISC-V, right? Didn't you say that earlier?  A In the embedded segment, yes. Q Okay. How long has that been a possibility for Qualcomm to use RISC-V to build a chip? A So RISC-V is an outgrowth of an academic project to develop reduced instruction set architectures. Qualcomm or others could have adopted early variants of it in a very experimental way many years ago. I can't recall exactly what the start date was. I think it was early 2000s or something like that. As a commercial endeavor, RISC-V has only taken off in the last several years. Again, I didn't investigate, like, the precise timing. I may have some, you know there may
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	architecture.  Q Anything else? A At a high level, those are the types of engineering investments involved. Q Would there would you need other investments besides engineering investments? A Well, as a practical matter, you do marketing. There would be the question, you know, sort of depends Yes, there are a variety of kinds of investments. We can sort of talk about many categories, but I think the key ones are the engineering investments that I just described. Q Okay. Now, you understand that RISC-V is open source and freely available, right? A Yes. Q In other words, there is no license fee that a chip maker needs to pay in order to design a CPU that is based on RISC-V, right? A Well, that's part of what open source	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	think, said that Qualcomm has made a billion chips with RISC-V, right? Didn't you say that earlier?  A In the embedded segment, yes. Q Okay. How long has that been a possibility for Qualcomm to use RISC-V to build a chip? A So RISC-V is an outgrowth of an academic project to develop reduced instruction set architectures. Qualcomm or others could have adopted early variants of it in a very experimental way many years ago. I can't recall exactly what the start date was. I think it was early 2000s or something like that. As a commercial endeavor, RISC-V has only taken off in the last several years. Again, I didn't investigate, like, the precise timing. I may have some, you know there may be some citation in my report to a general
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	architecture.  Q Anything else? A At a high level, those are the types of engineering investments involved. Q Would there would you need other investments besides engineering investments? A Well, as a practical matter, you do marketing. There would be the question, you know, sort of depends Yes, there are a variety of kinds of investments. We can sort of talk about many categories, but I think the key ones are the engineering investments that I just described. Q Okay. Now, you understand that RISC-V is open source and freely available, right? A Yes. Q In other words, there is no license fee that a chip maker needs to pay in order to design a CPU that is based on RISC-V, right?	2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	think, said that Qualcomm has made a billion chips with RISC-V, right? Didn't you say that earlier?  A In the embedded segment, yes. Q Okay. How long has that been a possibility for Qualcomm to use RISC-V to build a chip? A So RISC-V is an outgrowth of an academic project to develop reduced instruction set architectures. Qualcomm or others could have adopted early variants of it in a very experimental way many years ago. I can't recall exactly what the start date was. I think it was early 2000s or something like that. As a commercial endeavor, RISC-V has only taken off in the last several years. Again, I didn't investigate, like, the precise timing. I may have some, you know there may

26 (Pages 98 - 101)

1

Page 110 clear about is in this hypothetical, am I being asked to assume that there's no difference 3 technically between the Arm and the RISC-V ISA? 4 Q I think in this hypothetical, you're 5 being asked to assume that the RISC-V ISA can meet the same requirements that the Arm ISA can meet from a technical perspective. Okay? 7 8 A Okay. So --9 Q Let me ask the question. Yeah, let 10 me ask the question. 11 A Fair enough. 12 Q With that -- with that assumption, you would agree that these companies, Apple --14 sorry, Google, Meta, Samsung, Microsoft, NVIDIA, have an incentive to adopt RISC-V 16 because it would eliminate royalties that they 17 pay to Arm, right? 18 A If there's a perfect substitute available and that substitute actually is zero 19 price, then I would expect all of those 21 companies to choose the lower-priced or zero-priced option, yes. 22 23 Q Okay. 24 So as of right now, what is 25 preventing these companies from transitioning Page 111

2 be a choice that some firms will be making in 3 segments like mobile and data center? I think -- you know, my understanding is that -- I feel like I've seen press reports 9 10 that say that there's work going on for RISC-V in the data center that would arrive before 11 12 then. 13 So my general understanding is that RISC-V will continue to diffuse, as I 14 said, as sort of a normal trajectory for 15 16 something like a disruptive technology. It 17 starts in low-end applications and sort of moves up the quality ladder. 18

Q Do you have a view as to when it will

Page 112

Page 113

2

3

13

16

17

18

19

```
1
   to RISC-V and eliminating the royalties that
2
   they pay to Arm?
3
```

A It's that the assumption you asked me to make in the hypothetical is incorrect.

Q Okay.

4 5

6

7

8

11

12

So your view is that the reason why these companies are unable to currently substitute RISC-V for Arm is because right now, Arm -- RISC-V cannot meet the technical 10 requirements that Arm is able to? Is that right? A Well, I think it's -- if we go back to earlier, there are different segments that

13 have different requirements. RISC-V is being 15 deployed in some of those segments. 16 In other segments, it's not. There are -- RISC-V presently, right now, the 17 hardware and software investments that have to 18

19 be made to produce improvements in the 20 performance of RISC as an instruction set, as 21 an ecosystem, those are being made.

22 It's improving over time and

23 ; but right 24 now, you know, sort of, it is not a choice that

we see firms making in some segments.

But, again, this is sort of technical evidence that's not -- I'm not offering opinions about those performance

5 characteristics.

6 O Sure. 7 (Exhibit 7 marked for 8 identification.)

9 BY MR. DESAI:

10 Q I'm going to hand you what's been marked as Exhibit -- I think we're at 7, and 11 12 it's labeled QCVARM 0532239.

(Counsel conferred.)

MR. DESAI: We're going to take 14 15 that back.

BY MR. DESAI:

Q Just keep it as 7, but -- just keep it over there. You can -- I don't know if I'm going to use it.

20 MR. DESAI: We'll just mark this 21 as Exhibit 8.

22 MS. POHL: Okay. 23 (Exhibit 8 marked for 24 identification.)

25 MR. DESAI: Simpler, I guess.

29 (Pages 110 - 113)

	P 114		D 110
1	Page 114 Exhibit 8 is labeled	1	Page 116 A I think he's hyping his own the
2	QCVARM_0866937.	2	relative benefits of his own product, because
3	(The deponent read the	3	that's what's in his interest to do.
4	document.)	4	Q Well, I mean, is it when he says,
5	Q This is a an article that includes	5	"There's no software anywhere for RISC-V in
6	a conversation with Rene Haas; do you see that?	6	these places. None," is that hyping Arm or is
7	A Yes.	7	that explaining that RISC-V is not really a
8	Q This is from January 2024.	8	competitive threat?
9	A June 2024.	9	A I keep reading and I see nothing in
10	Q Sorry, June. My bad.	10	his statements about competition.
11	Have you seen this before?	11	He is trying to suggest that Arm
12	· · · · · · · · · · · · · · · · · · ·	12	has more software available for that solution.
	A Maybe. I don't know if I've seen an		
13	excerpt from it. I mean, I haven't reviewed	13 14	In that sense, he's hyping it. Hyping is a
14	the whole thing. I don't recall seeing it in this form.		relative thing. He's saying the product I'm
15		15	selling is better than the RISC-V alternative.
16	Q Well, regardless of its form, do you	16	Q Did you talk to Mr. Haas about this?
17	recall seeing this conversation with Rene Haas?	17	A No.
18	(The deponent read the	18	Q Did you talk to Paul Williamson about
19	document.)	19	these statements regarding RISC-V?
20	A I think maybe I've read this, or	20	A No.
21	parts of it. I honestly I don't recall. I	21	Q Okay.
22	think there's some of it that looks familiar as	22	Do you have any reason to
23	I read it, but	23	disagree with what Mr. Haas is saying about
24	Q It's not something that you cited in	24	RISC-V on this page?
25	your report, right?	25	(The deponent read the
	Page 115		Page 117
1	A If I did, I don't remember why I	1	document.)
2	cited it.	2	A As I said, no, I don't have a any
3	Q Okay.	3	insights into why Mr. Haas said well, I
4	There we go. I want you to take	4	guess what I think is this is marketing.
5	a look at the top of the page, the ending Bates	5	That's what I said before.
6	number is 944.	6	Do I have an I guess you'd
7	A Would you like me to look at the	7	have to ask me specifically what you want me to
8	first paragraph on 944?	8	disagree with, but I don't see anything in
9	Q I want you to look at Mr. Haas's two	9	particular.
10	answers the first two answers on that page.	10	Q Okay.
11	Let me know when you're done.	11	Do you disagree with his
12	(The deponent read the	12	statement that RISC-V is not interesting from a
	•		
13	document.)	13	CPU standpoint because it's not running any key
13 14	document.) A Okay.	14	software?
13	document.)  A Okay.  Q Is it a fair summary here that		
13 14 15 16	document.)  A Okay.  Q Is it a fair summary here that  Mr. Haas does not believe that RISC-V is really	14 15 16	software?  A I haven't no, I haven't evaluated that.
13 14 15 16 17	document.)  A Okay.  Q Is it a fair summary here that  Mr. Haas does not believe that RISC-V is really in competition with Arm?	14 15 16 17	software?  A I haven't no, I haven't evaluated that.  Q Okay.
13 14 15 16 17 18	document.)  A Okay.  Q Is it a fair summary here that  Mr. Haas does not believe that RISC-V is really in competition with Arm?  A I think this is Mr. Haas in public	14 15 16 17 18	software?  A I haven't no, I haven't evaluated that.  Q Okay.  Do you disagree with his
13 14 15 16 17	document.)  A Okay.  Q Is it a fair summary here that  Mr. Haas does not believe that RISC-V is really in competition with Arm?	14 15 16 17	software?  A I haven't no, I haven't evaluated that.  Q Okay.  Do you disagree with his statement that "There's no software anywhere
13 14 15 16 17 18	document.)  A Okay.  Q Is it a fair summary here that  Mr. Haas does not believe that RISC-V is really in competition with Arm?  A I think this is Mr. Haas in public	14 15 16 17 18	software?  A I haven't no, I haven't evaluated that.  Q Okay.  Do you disagree with his
13 14 15 16 17 18 19 20 21	document.)  A Okay. Q Is it a fair summary here that Mr. Haas does not believe that RISC-V is really in competition with Arm? A I think this is Mr. Haas in public making statements about RISC-V to try and steer	14 15 16 17 18 19	software?  A I haven't no, I haven't evaluated that.  Q Okay.  Do you disagree with his statement that "There's no software anywhere
13 14 15 16 17 18 19 20	document.)  A Okay.  Q Is it a fair summary here that  Mr. Haas does not believe that RISC-V is really in competition with Arm?  A I think this is Mr. Haas in public making statements about RISC-V to try and steer customers towards Arm.	14 15 16 17 18 19 20	software?  A I haven't no, I haven't evaluated that.  Q Okay.  Do you disagree with his statement that "There's no software anywhere for RISC-V in these places. None"?
13 14 15 16 17 18 19 20 21	document.)  A Okay.  Q Is it a fair summary here that  Mr. Haas does not believe that RISC-V is really in competition with Arm?  A I think this is Mr. Haas in public making statements about RISC-V to try and steer customers towards Arm.  This is sort of public-facing	14 15 16 17 18 19 20 21	software?  A I haven't no, I haven't evaluated that.  Q Okay.  Do you disagree with his statement that "There's no software anywhere for RISC-V in these places. None"?  MS. POHL: Object to form.  A Sorry?  Q Do you disagree with his statement,
13 14 15 16 17 18 19 20 21 22	document.)  A Okay. Q Is it a fair summary here that Mr. Haas does not believe that RISC-V is really in competition with Arm? A I think this is Mr. Haas in public making statements about RISC-V to try and steer customers towards Arm. This is sort of public-facing marketing kind of activity that CEOs do.	14 15 16 17 18 19 20 21 22	software?  A I haven't no, I haven't evaluated that.  Q Okay.  Do you disagree with his statement that "There's no software anywhere for RISC-V in these places. None"?  MS. POHL: Object to form.  A Sorry?

30 (Pages 114 - 117)

	Page 118		Page 120
1	MS. POHL: Same objection.	1	these ISAs.
2	A I don't know what Mr. Haas is I	2	My general understanding is that
3	will say I have not evaluated the relative size	3	today, x86 and Arm have a larger installed base
4	of the software ecosystem, so I guess we should	4	of developers, but that RISC-V is growing.
5	let Mr. Haas's statement just stand. I'm not	5	Q Okay.
6	going to disagree with it.	6	MR. DESAI: Why don't we mark
7	Q Do you agree that a gating problem	7	this as Exhibit 9.
8	for RISC-V is is getting a large network of	8	(Exhibit 9 marked for
9	software developers to develop software for	9	identification.)
10	that architecture?	10	BY MR. DESAI:
11	A What do you mean by a "gating	11	Q Exhibit 9 is Bates-labeled
12	problem"?	12	ARMQC_00001038. Take a moment to look through
13	I guess I agree that an ISA	13	it and answer if you've seen this before.
14	benefits from having software that can be run	14	A I don't think I've seen this before.
15	on chips that implement that ISA.	15	Q Looks like it's a presentation from
16	Q Do you agree that in order for RISC-V	16	May 8, 2024.
17	to be a competitive threat to Arm, it will	17	A From Arm's head of investor
18	require a large network of software developers	18	relations, yes.
19	for RISC-V?	19	Q Okay.
20	A I don't know, you know, sort of	20	And I want you to go to the
21	the large piece of that sounds like you're	21	slide that is labeled 1065.
22	inviting quantitative comparisons that I	22	(Pause.)
23	haven't done.	23	A Okay.
24	I do my understanding is that	24	Q And this is a slide, the title is
25	these ISAs require architecture-specific	25	"Arm is the ubiquitous choice."
	Page 119		Page 121
1	software investments.	1	Do you see that?
2	So yes, the you know, sort of	2	A Yes.
3	developers need to write things like compilers	3	Q All right.
4	that are specific to an ISA. That allows	4	And there's a comparison here of
5	applications developers to port their	5	Arm, x86 and RISC-V?
6	applications to chips that implement that ISA.	6	A Yes.
7	That increases the value of what's called the	7	Q Okay.
8	ecosystem.	8	And both Arm and x86 are labeled
9	Q At present, RISC-V lacks the network	9	as checked as having a software ecosystem
10	of software developers that exist for Arm's ISA	10	but RISC-V is not, right?
11	and even for, for example, Intel's x86 ISA,	11	A That is what is on this slide, yes.
12	right?	12	Q Okay.
13	MS. POHL: Object to form.	13	And is the lack of a software
14	A My sense is that again, we had	14	ecosystem one of the reasons that RISC-V is not
15	this earlier discussion about, you know,	15	in a position to currently compete with Arm in
16	implementations of an ISA for different	16	various segments like mobile and data center?
17	markets.	17	MS. POHL: Object to form.
18	In, for example, the embedded	18	A No. This is a presentation from
19	systems market, it seems like RISC-V is a	19	Arm's head of investor relations, whose job, in
20	viable solution. It's making progress.	20	part, is to sell Arm to investors in Arm's
	I know that there are efforts to	21	stock, okay.
21			Hais this shoots is not on
22	sort of make the software investments to grow	22	He is this check is not or
	the ecosystem, but I haven't done a comparison	22 23	absence of a check is not, I don't think,
22		l	

31 (Pages 118 - 121)

Page 122 Page 124 That's not how I would interpret this slide some amount of investment going on. It is not 2 deck. 2 zero. 3 There is software development 3 0 Well, do you have an opinion as to happening for RISC-V. I see in the evidence 4 what it is for RISC-V? 4 that I cite in my own report evidence that 5 5 A As I said, I haven't done a 6 6 quantitative evaluation of the relative size of 7 the ecosystems measured in that way. 8 Q But you do understand the size of the 9 Arm software ecosystem for segments like mobile 10 and data center, right? 11 A I don't know what you mean by I "understand the size." 12 13 Q Well, you've seen some evidence in some of these reports about that size, right? 14 O Okay. 14 15 15 A What I have is -- what I think I What about data center? 16 A I didn't provide a date for data already said is that I understand that Arm has 16 and x86 has presently a larger number of 17 center, but I -- my understanding that I 17 18 expressed was that it's likely to be a bit developers that have made these investments or 18 19 19 worked on applications that are specific to sooner. 20 20 those ISAs than for RISC-V. Q And when you say there's software 21 being written for RISC-V, that's because you 21 O I think somewhere in Mr. Posner's 22 understand it's being used in low-end embedded 22 report he quotes Arm as saying there's 23 systems, right? 23 something like 22 million software developers 24 24 A Well, there's -for Arm. 25 That do have software. 25 Does that sound right to you? Page 123 Page 125 1 A There is the RISE consortium, the 1 A I will take your word for that. RISC Instruction Set -- whatever it is. We 2 All right. 3 And do you have a sense of where 3 should look up the acronym. that stands for RISC-V? 4 But my understanding is that one 4 5 of the things that these companies with all of 5 A I have -- no. I do not. the resources that we discussed earlier, Google 6 Q Now, if you go to paragraph 218 of 7 and Meta, are doing is forming a consortium to 7 your report, you point out that Professor Posner argues that, "Due to network effects, 8 stand up a better software ecosystem for 8 9 RISC-V. 9 Arm's ecosystem is protected by entry barriers." 10 Because those companies are 10 11 interested in markets like data center, I 11 Do you see that? 12 believe that that software development is 12 A Yes. 13 underway. 13 Q And I guess I'll ask, do you agree 14 that the Arm ISA is protected from competition Q Right. 14 15 But, at present, RISC-V lacks a 15 because of network effects? 16 software ecosystem for segments like mobile and 16 A The point that I make here is that data center, right? 17 17 Professor Posner embraces kind of a binary or like a Mankiw economic model where network A I wouldn't accept that 18 18 19 characterization. I think you're trying to 19 effects lead inevitably to tipping and sort of present ecosystem as though it was a binary monopoly for prolonged or indefinite periods of 20 20 choice. You have an ecosystem or you don't. 21 21 time, which is just wrong. 22 You have software developers or you don't. 22 The point I'm making here is 23 The way an economist would think 23 that even in markets where network effects 24 about this is it's more of a continuous choice. 24 exist, the firms whose products benefit from

32 (Pages 122 - 125)

those network effects can face effective

There's some number of software developers or

1	Page 198 that a monopolist would invest less in	1	Page 200 many different contexts understand that
2	innovation than firms that face competition or	2	investments downstream help you with your
3	competitive constraints.	3	upstream products and investments upstream help
4	Arm's substantial investments in	4	you with your downstream products. They're
5	R&D are more consistent, you know, within that	5	complementaries, in other words.
1	modeling framework with a firm that faces	6	So in terms of the benefits, it
6 7	competition than with Arm being a monopolist.	7	is not quite not very easy to disentangle.
8	Q Okay.	8	I don't have data. The sort of simple answer
9	Q Okay. Now	9	to your question is I do not have data that
10	A In the sense of not a monopolist	10	from a cost perspective allows me to say this
11		11	
12	in the sense of not facing competitive	12	R&D project is ISA; this R&D project is core or something else.
13	constraint or threats of displacement.	13	<u> </u>
14	Q And I think the data you used for R&D	14	<ul><li>Q Okay.</li><li>A And to do that decomposition.</li></ul>
15	expenditures on page 139, which is showing	15	1
	their expenditure as a percent of total	16	Q All right.
16 17	revenue, right?	17	Did you ask for that data and it
18	A I mean, you could look at levels, but	18	didn't exist or did you just simply choose to
19	yeah, this is a standard way to sort of just illustrate that as a share of revenue, Arm is	19	rely on R&D expenditures as a total amount?  A I didn't ask, because I don't think
	· · · · · · · · · · · · · · · · · · ·	1	
20	investing a substantial amount in R&D and more	20	that that kind of detailed decomposition is
21	as a share of revenue than Qualcomm is.	21	necessary to make the point I'm making here.
22	Q Right.	22	Q So you don't know how much Arm spends
23	This is Arm's total R&D revenue,	23	in terms of R&D in terms of improving the Arm
24	correct?	24	ISA from one version to the next, right?
25	A I mean, I think what you mean is	25	A I guess I'm not sure what you mean by
1	Page 199	1	Page 201
1	total R&D expenditure.	1	that. So here, there is spending by year, and
2	Q Sorry, I didn't yeah. This is Arm's total R&D	2	you can roughly correlate year over year with transitions in the ISA.
3		3	
4	expenditure as a percentage of total revenue,	4	But as I just explained well,
5	right? A Yes.	5	I'm not sure I understand the question about transition the ISA.
6 7	Q So that would include R&D on	7	Q So you would attribute all of this
8	off-the-shelf cores, R&D on its new cores that	8	revenue sorry, all of this R&D expenditure
9	it's making, as well as R&D that's specific to	9	on page 139 to as R&D that's improving the
10	the ISA, right?	10	ISA from
11	A All Arm R&D, yes.	10	, et cetera?
12	Q Okay.	12	Do you understand what I'm
13	Did you perform any analysis to	13	saying?
14	break down what the expenditure Arm is doing in	14	A I think I understand what you're
15	R&D that is dedicated to the ISA,	15	saying. So you're saying that some of Arm's
16	differentiated from R&D on the development and	16	R&D investment goes into the improving the ISA
17	<u> </u>	17	and that at some point in time when
18	design of cores?	18	<u> •</u>
19	A I don't think well, there's two answers to that. One is that it's not so easy	19	improvements accumulate, they release a new version of the ISA that has different features
20	·	20	
20 21	to tell, because so if we could I cite elsewhere, for instance,	20	in it.
$\begin{vmatrix} 21\\22\end{vmatrix}$		21 22	I'm not able to sort of say how much investment went to based
23	Mr. Haas explaining that R&D that you do in	23	
23	cores helps you build a better ISA, okay?		on costs. I didn't do that.
	Companies widely kind of	24	Q Okay.
25	recognize or the people I've spoken to in	25	You would agree that Arm does

51 (Pages 198 - 201)

	Page 206	-0	Page 208
1	of competition that applies to the entire chip	1	MS. POHL: I don't have any
2	developments, you know, sort of, layer of the	2	questions for you.
3	supply chain.	3	MR. DESAI: All right.
4	Q Are you willing to do you have an	4	THE VIDEOGRAPHER: The time is
5	opinion as to whether competition is more	5	now 2:46, and we're off the record. Thank you,
6	fierce at the chip level than it is at the ISA	6	everyone.
7	level?	7	(Whereupon, the proceedings
8	A Again well, no, for the same	8	adjourned.)
9	reason I just said. I think you would have to	9	adjourned.)
10	look at an individual you'd have to define a	10	
11	chip market. I will I would grant that	11	
12	there are chip markets that are very	12	
13	competitive.	13	
14	Q Which ones?	14	
15	A I think my understanding is these	15	
	embedded systems are pretty competitive, that		
16 17	there are a large number of suppliers in that	16 17	
18		18	
19	space. Q Anything else?	19	
20	A I'd want to do the work, and that's	20	
21	not something I was asked to do.	21	
22	and the global transfer the terms of the control of	22	
23	Q Okay.  Would it alter your opinion if	23	
24	Arm's R&D spend on the ISA is much lower than	24	
25	the R&D it spends on off-the-shelf cores or new	25	
23	the R&D it spends on off-the-shell cores of new	23	
	Page 207	_	Page 209
1	cores?	1	CERTIFICATE
2	A I would love to know what opinion	2	I, Jill K. Ruggieri, Registered Merit
3	you're referring to, but it won't change the	3	Reporter and Certified Realtime Reporter, do certify that the deposition of TIMOTHY S. SIMCOE, PhD, in
4	opinions that I offer in the report for the	5	the above-captioned matter, on September 26, 2025, was
5	reason I explained earlier.	6	stenographically recorded by me; that the witness
6	There are complementarities in	7	provided satisfactory evidence of identification, as
7	R&D investment. So your questioning continues	8	prescribed by Executive Order 455 (03-13) issued by the
8	to sort of take the view that we should think	9	Governor of the Commonwealth of Massachusetts, before
9	about this on a cost basis and apportion the	10	being sworn by me, a Notary Public in and for the
10	R&D between products or stages in the supply	11	Commonwealth of Massachusetts; that the transcript
11	chain based on, say, an org chart and where	12	produced by me is a true record and accurate record of
12	that, you know, R&D was done.	13	the proceedings to the best of my ability; that I am
13	But part of the point you	14	neither counsel for, related to, nor employed by any of
14	know, one of the benefits of vertical	15	the parties to the above action; and further that I am
15	integration that is akin to the eliminating	16	not a relative or employee of any attorney or counsel
16	double marginalization effect that we talked	17	emplo1 11 nor financially or
17	about earlier is that when you do downstream	18	otherv ne of the action.
18	R&D, it helps you improve your upstream	19	1 Vignere
19	products.		() - 00
20	And in that sense, it's quite	20	
21	difficult to disentangle the benefits of the	21	Jill K. Ruggieri, RPR, RMR, FCRR, CRR
22	R&D investments that from a cost perspective	22	
0.0	might be apportioned out into different	23	Transcript review wasrequested of the reporter.
23	and the milk and the market and the state of		
23 24 25	products or stages of the supply chain.  Q I don't have any more questions.	24 25	

### EXHIBIT 30

v

**Technology sector** 

Rene Haas: 'Arm has the most ubiquitous computer architecture on the planet'

Chip designer's chief executive talks about diversification and how AI is changing the devices we use

#### Tim Bradshaw

Published JUN 7 2024



Rene Haas is chief executive of Arm, the chip designer behind the processors in 99 per cent of all smartphones. After being bought by SoftBank in 2016, the UK-headquartered company became last year's biggest initial public offering, in a deal valuing it at \$54.5bn on Nasdaq. Since then, Arm's market capitalisation has nearly tripled to around \$140bn, as it has been caught in the updraft of investor excitement about artificial intelligence.

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 586 of 616 PageID #:

Based in Silicon Valley, Haas has worked in the industry for almost 40 years, including seven years at AI chipmaker Nvidia before joining Arm in 2013. Since becoming chief executive in 2022, he has pushed Arm to diversify further from its mobile phone roots into PCs, automotive and industrial components and, increasingly, servers — all underpinned by the same promise of power efficiency that has kept its technology at the heart of the iPhone.

Arm does not manufacture its own processors — though a recent <u>report</u> suggested that may soon change — instead licensing a growing array of designs to the biggest names in the tech industry, including Microsoft, Nvidia, Apple, Google, Samsung, Amazon, and Taiwan Semiconductor Manufacturing Company.

After Apple <u>switched</u> its Mac processors from Intel to its own Arm-based versions in 2020, Microsoft this year unveiled a series of Arm-powered Windows PCs, hailing a new era of the "AI PC".

In this conversation with FT global technology correspondent Tim Bradshaw, Haas discusses the growing importance of software to chipmakers and how AI is changing the devices we use.

**Tim Bradshaw:** Microsoft has been making a <u>big push</u> with Arm-based Windows PCs in the past few weeks but this isn't the first time Microsoft tried to make that switch. What's different now compared with the failed efforts of the past, such as 2012's Windows RT?

Rene Haas: I worked on the very first Windows on Arm PCs back in 2012. And a lot has changed since that time. One of the things that's probably the biggest difference now is that virtually the entire application ecosystem is native to Arm—meaning that, not only is the performance going to be fantastic, but try to find an application that's not going to run. If you go back 12 years when Windows on Arm kicked off, it was a completely different world in terms of local apps versus cloud, and Windows on Arm didn't support a lot of popular applications [such as Apple's iTunes and Google's Chrome web browser]. That was a killer blow.

#### Tech Exchange



The FT's top reporters and commentators hold conversations with the world's most thought-provoking technology leaders, innovators and academics, to discuss the future of the digital world and the role of Big Tech companies in shaping it. The dialogues are in-depth and detailed, focusing on the way technology groups, consumers and authorities will interact to solve global problems and provide new services. Read them all here

Fast forward to 2024, there's no issue with application ecosystems. And what's been proven on the Windows on Arm platforms as an extension of the other ecosystem, MacOS, is the experience is phenomenal, when we look at the battery life and the performance that the Macs have . . . It's going to be a very different game this time.

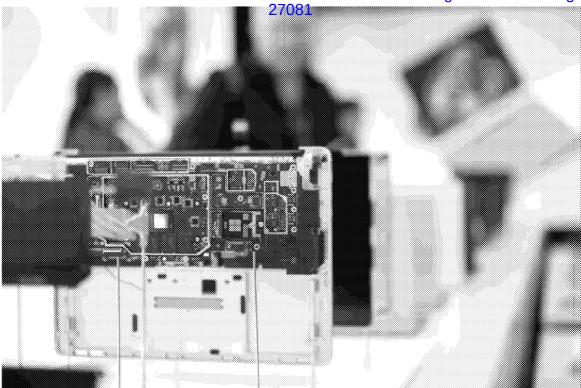
**TB:** And now with the extra sales pitch of 'AI everywhere'. Where do you think we're up to in finding the right applications for these new AI tools?

RH: Talking about AI PCs, I think it's very early. I think you have Copilot [Microsoft's brand for products enhanced by AI assistants recently extended to its latest AI PCs] that has now been introduced. So the feature set that has been talked about, I think it's going to start to take advantage of the underlying hardware.

We know there's going to be some other [Windows AI PC] systems coming out in the

upcoming years. So, while the first-generation systems are going to be interesting, the second generation systems are going to be even more [so]. And folks who bought the first ones are probably going to be a little bit green with envy when they see what the second ones look like.

**TB:** Buying version one of any new product is just part of the risk/reward of being an early adopter. Are you an early adopter? What tech are you playing with right now?



It's early for AI PCs: Microsoft's Copilot+ on display at the company's campus in Redmond © Chona Kasinger/Bloomberg

RH: Whether it's game consoles, whether it's phones... I'm a very much an early adopter. I probably have every mobile phone in existence. I'm a big foldable phone guy. I think they're great. Because they are small enough when folded to act like a mobile phone. But when you expand it out, you can look at spreadsheets, you can watch videos. It's like a mini tablet.

**TB:** It seems like we're in another moment where people are experimenting with different form factors for consumer electronics, with folding phones and <u>AI glasses</u>. Have you tried any of those new AI wearables?

**RH:** I have tried some of them. I do like the Meta Ray Ban augmented reality glasses. They're stylish. The video quality is good. They are good sunglasses and they don't feel bulky or weird. Me, personally, I don't like something heavy on my head. So that's why I like the Ray Bans and they have Arm inside, which is also what I like.

**TB:** Do you see that becoming a big product category? Because we've been here before with Google Glass which — to say the least — was not successful.

**RH:** I think augmented reality is still emerging in terms of the capabilities of that field. I think there's a huge opportunity with holograms, with display technology. That is an area that is probably early days still in terms of being figured out. I think it's a generational thing... I think a generation has to grow up being comfortable with wearing things for an extended amount of time. [So] it's more of a niche item right now.

#### 66

Whether it's game consoles, whether it's phones . . . I'm a very much an early adopter. I probably have every mobile phone in existence. I'm a big foldable phone guy

**TB:** All of these products, whether AI PCs or smart glasses, are part of a broader trend for moving from AI services that run in the cloud — like the ChatGPT app, which needs an internet connection to work — to systems that run on the "edge" [industry jargon essentially meaning people's or companies' own devices, like phones or factory equipment]. There's much more competition here than in AI chips, where Nvidia totally dominates right now. Do you see the edge becoming a bigger opportunity for chipmakers than the cloud?

**RH:** We are still in very early days in terms of AI workloads running everywhere. So to your point of, 'what is an edge device?' maybe the user would describe that as 'not the cloud'. So what has to happen is the [AI] models . . . need to evolve. I think the models need to get a little bit smaller, a little bit more efficient to run in these other areas.

Where is Arm going to play? They're all going to run through Arm because, first off, you have to have a CPU [central processing unit], which is table stakes and for any of these end devices, and the installed base is all Arm anyway. So the software ecosystem is going to look to optimise around Arm.

We're showing some information at Computex [the trade event in Taiwan this week] around compute libraries that will essentially make it very, very easy to run these AI workloads on Arm CPUs. Developers, in the past, did not have access to the Arm CPU when they wanted to run an AI application. Arm will now be making these libraries available to developers. So they can write the application and it takes advantage of the hardware. It could run three times faster, four times faster, at the same power.



Rene Haas in New York the day Arm's share started trading on Nasdaq in September last year © Michael M. Santiago/Getty Images

**TB:** These libraries are part of the broader package of Arm products that you describe as the 'compute subsystem'. This is a core part of Arm's strategy now, to go beyond designing one single chip for customers to build on. Can you explain more about that — and why you're doing it?

**RH:** What really makes Arm unique is we have the most ubiquitous computer architecture on the planet. Our CPUs are in 30bn devices per year, almost 300bn in total. What we are finding is that the chips are becoming increasingly more difficult to build and it takes longer to build them . . . as you get to smaller transistors.

So how can Arm help? Let's say, in a server, you might have 128 ARM CPUs. And with those 128 ARM CPUs, you have all of the [networking systems] that connect them together. You have a memory mapping system, you have a mesh network... Previously, the end customer would have to put all that stuff together and then build their chip. With compute subsystems, we put all that together for them.

We are in mobile phones, we are in PCs, we're in automotive applications, we are in complex AI training, and we are in general-purpose server[s]. All of those are Arm CPUs [and] areas that we are going to do compute subsystems. So, over time, it's going to be a very, very large part of our business.

**TB:** One of your big new customer wins on the data centre side recently was Microsoft which is doing a new Arm-based CPU for its cloud <u>called Cobalt</u>. You've now got Amazon, Google, Microsoft — the three biggest cloud computing providers — all running Arm CPUs as part of their cloud platforms. When did that work start from your side to see that come to fruition?

### 30bn

Number of devices built every year with an Arm central processing unit

**RH:** We have been working on this for over 10 years. It's been a tremendous amount of work [in which] two things had to come together. The CPUs had to get performant enough against the competition. They had to be very efficient. They had to be very

high speed. And we had to have all the components around it. And then . . . the software ecosystem had to have everything required that you could just run the servers. So Linux distributions, like Red Hat and SuSE. We were working in parallel to have all the pieces of the software together.

When you combine the software being ready with world-class products and power efficiency, you now have a compelling advantage in terms of the chip. Now, what makes it even more compelling is, by building a custom chip, you can essentially build a custom blade, a custom rack, and a custom server that's very unique to what Microsoft is running with Azure or what Google is running in Google Cloud or AWS.

**TB:** Power efficiency is a big part of Arm's pitch over traditional server chipmakers like Intel and AMD. Microsoft said recently that it's investing so fast in AI data centres that it's looking like it might miss some of its climate targets. That must be a problem all the Big Tech companies are facing right now?

**RH:** Oh, yes, it's massive. Two things are going to accelerate Arm's adoption in the cloud. One is just broadly, this power efficiency issue. And secondly, the fact that, on AI, we can greatly reduce power by this customisation. Just look at Nvidia. Nvidia built a chip called Grace Hopper and then they built a chip called Grace Blackwell. They are essentially replacing the Intel or AMD CPU with an Arm CPU, which is called Grace.

#### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 592 of 616 PageID #:

**TB:** One Big Tech company that hasn't announced an Arm-based chip in its data centres yet is Meta, Facebook's owner. Its new chip for AI inference [the kind needed to deliver AI services rather than create them], called MTIA, is using an open-source alternative to Arm's architecture called RISC-V... Are they using Arm in other ways or have they decided to go down a different path?

**RH:** This MTIA chip is an accelerator. And that accelerator has to connect to a CPU. So it can connect to an ARM CPU, or it can connect to an Intel CPU. RISC-V is not interesting from a CPU standpoint, because it's not running any key software...I'll leave it to Meta to say whether they're going to connect to Intel or Arm.

**TB:** The analysts I speak to see big potential growth for RISC-V in areas like automotive, where Arm is also hoping to grow. Do you worry that RISC-V is starting to nibble at the edges?

**RH:** Where I don't see it nibbling anywhere is running key software applications. I think there's a misunderstanding commonly between the RISC-V architecture as it applies to being a chip and when it's really running [key] software. Because it's all about the software.

And, again, back to what makes Arm very unique: every mass popular application you can think of has been ported to and optimised for Arm. It takes a long, long time not only to get the software written, but ported and optimised. There's no software anywhere for RISC-V in these places. None.

TB: So, if not competition from RISC-V, what does keep you up at night?



It took us 20 years to get to \$1bn. It took us another 10 to get to \$2bn. It took us two years to get to \$3bn. And we're looking to get to \$4bn in one year RH: The things that I worry about are the stuff that's inside my control. We have massive opportunity with all these compute subsystems. We have massive opportunity with growth in AI. We have massive opportunity to reduce power to go solve this issue relative to data centres. It's just making sure that we can execute on the strategies we have, because we are at a magical time in our industry relative to the growth potential.

**TB:** How much does being a public company keep you awake at night?

**RH:** Generally speaking, it doesn't change how I think about running the company because I don't really think about the company from quarter to quarter. I think about the company from year to year. Most of my discussions that I have with our internal teams or engineers are about 2027, 2028.

**TB:** Unfortunately, Wall Street does tend to look at things quarter by quarter. You've had a lot of <u>stock-price volatility</u> around your quarterly earnings reports. That's not uncommon for a newly-listed company but do you think investors really understand the Arm business?

**RH:** What I would say about the volatility is we've had three quarters of being a public company and each quarter was bigger than the last one. And each quarter that we talked about going forward was larger... we basically indicated that we see 20 per cent growth year on year and we see that continue for the next few years.

We achieved \$3bn in revenue over this past year. It took us 20 years to get to \$1bn. It took us, I think, another 10 to get to \$2bn. It took us two years to get to \$3bn. And we're looking to get to \$4bn in one year. So the trajectory is in the right place.

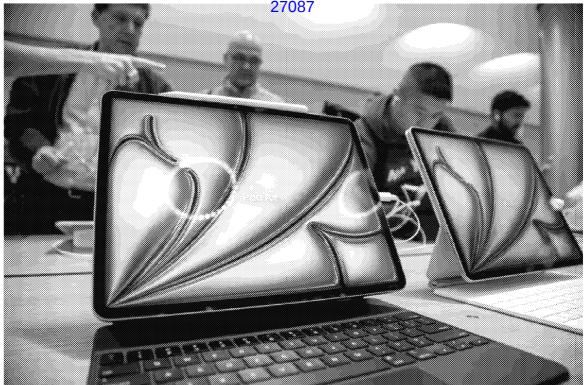
We have incredible visibility in terms of our business, [not only because] we get reports from our customers, but because our market share is so high.

**TB:** Some investors worry about visibility in two parts of your business in particular. One of them is Apple, one of your biggest customers but which is famously not very open with its partners. The other is Arm China. You warned in your IPO prospectus of past problems obtaining "accurate information" from Arm China. What insight do you really have?

**RH:** We have great insight with Apple. They're a phenomenal partner for us. They have signed a long-term [contract] extension. They're very committed to Arm.

Arm China, that's our joint venture in China. They are essentially a distributor for us. So we have very good visibility in terms of how we work with partners there. With China, the issue that we've faced in terms of export control are no different from other [chip] companies. But, in general, I would say, with Arm China, things are going quite well.

Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 594 of 616 PageID #:



Apple's latest iPad Air uses the Arm-based M2 chip © Bloomberd

**TB:** How has being a public company changed your relationship with SoftBank and its chief executive, Masayoshi Son? They're still a 90 per cent shareholder but you're more out on your own now. How does that dynamic change?

**RH:** I think it's changed in the sense that, as a public company, we now have a board that has independent directors that represent shareholders. So all the things that we have to do from a governance standpoint, that's a little bit different. I'd say we are certainly more independent in terms of how we think about the company, how we talk about the company. But SoftBank's our largest shareholder, so obviously they have a big say in terms of things at the boardroom table.

With Masa, I would say the relationship is no different. We talk all the time. He's a brilliant guy. I think he gets a little bit of a bad rap in the press. He's a guy who started the company 40 years ago and is still running it. There's a pretty small group of people who have done that kind of thing, and the company is still broadly successful.

**TB:** How does Arm fit in with SoftBank's broader strategic goals around AI?

RH: Clearly, Masa is very bullish on all things AI and — given that it's pretty hard to talk about an AI application that doesn't bump into Arm — we're at the centre of many of those things. For example, SoftBank made an investment into a UK company called Wayve, which is doing some amazing work in LLMs [large language models, the complex AI systems that sit behind applications such as ChatGPT] for full self-driving cars. It's running on Arm. So there is an area where if Wayve does well, Arm does well.

**TB:** Does that mean you're going to move into making your own AI chips, as Nikkei reported recently?

RH: I can't give you anything on that one. I can't comment.

**TB:** Silicon Valley in general, and the chip industry in particular, is full of 'frenemies'. Nvidia's biggest customers are all making their own AI chips, for example. Where do you think you can, and can't, compete with your customers?

**RH:** I tend to think more about where can we add value and where is the industry going? Back to compute subsystems. When we kicked the idea off, this was a bit controversial because, by doing a full subsystem implementation, some customers might say, 'Hey, that's the kind of work I do. Arm, I don't need to have your finished solution.' Fast forward, we solve a lot of problems in terms of engineering overhead. We solve a lot of problems relative to time to market. We solve a lot of problems relative to broadening out Arm's platforms.

So that's an example of something that might be a frenemy kind of thing where people might look at it and say, 'That's my domain'. But I would say it's worked out far better than we thought. Even the early customers who pushed back at it are adopting it.

**TB:** Another example of a frenemy for Arm is Intel. At the same time as competing for a lot of Intel's PC and server business, you're actually getting closer to them on the foundry side. You were recently on stage at an Intel event — which some people who have been watching this industry for 30 years might have seen as a 'hell freezing over' kind of moment. What is the nature of that relationship exactly?

#### 

RH: Yeah, that's a great example of the world moving around. Intel, 10 years ago, probably saw it was very beneficial to see Arm as not a healthy competitor. Fast forward, Intel has a burgeoning business that is trying to grow around Intel Foundry. What does Intel Foundry need? They need volume. Well, who drives the most volume in terms of CPUs? It's Arm. So they obviously see the size of that opportunity... They've taken a lot of money from the US government on the Chips Act and they need to put that money to work. I think working with Arm is going to be the fastest way they can do that.

**TB:** We've talked a lot about AI in the abstract. What are the particular applications of AI that you're most excited about personally?

#### 66

How long does it take to develop a new drug? Ten years. That can be cut in half, it can be cut by two-thirds by using Al. That to me is incredibly exciting RH: A really simple AI application that I use is to remove people from photographs. I'll take pictures of my kids, my grandkids, my friends, and someone will photobomb. And you can just clean that stuff up. With [Google Photos] Magic Eraser, you can do that. Crazy simple, but that's AI.

But the areas that I personally find far more interesting are drug research and medical. A very simple example: You're ill, you go to the pharmacy, they prescribe some

medicine to you, and you look at the medicine and the side effects are as generic as it can be. That seems like something that, if the doctor knew my DNA genome sequence and would be able to map out exactly which drugs will give me what kind of reaction, knowing exactly my background and profile, that would be compelling. I was meeting this morning with somebody who's in this industry and was asking that question. With AI, that's probably three to four years away.

Another interesting example is drug research. How long does it take to develop a new drug? Ten years. That can be cut in half, it can be cut by two-thirds by using AI. That to me is incredibly exciting.

**TB:** Some AI boosters argue the technology will soon replace all human labour. Do you think your grandchildren will have to work?

**RH:** I hope so. I hope so. What a life if they don't.

This transcript has been edited for brevity and clarity

Copyright The Financial Times Limited 2025. All rights reserved.

#### Follow the topics in this article

**Technology sector** 

**Semiconductors** 

Artificial intelligence

Arm Ltd

Tim Bradshaw

# EXHIBIT 31

7/7/2025

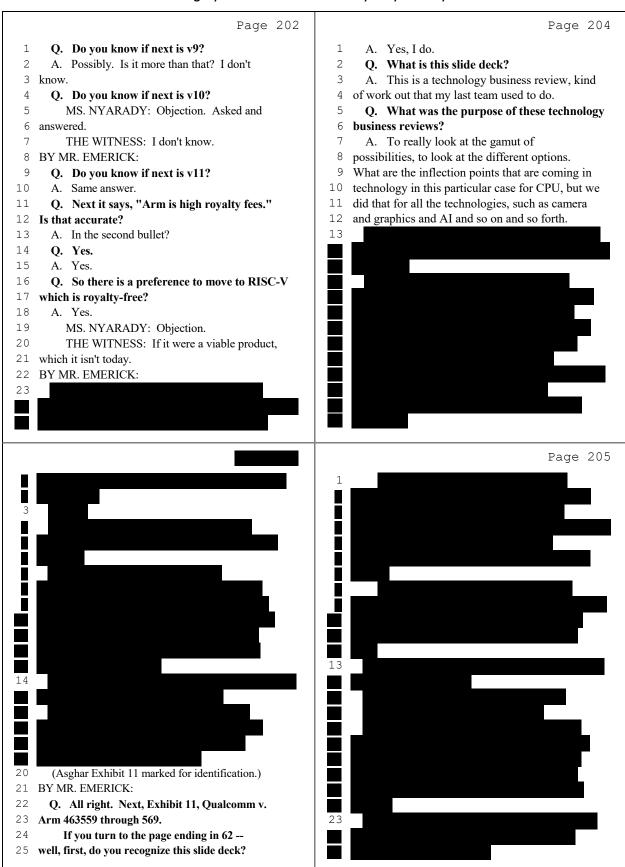
Qualcomm Incorporated, et al. v. Arm Holdings PLC, et al. Highly Confidential - Attorneys' Eyes Only

Ziad Asghar

		Page	1
IN THE UNITED STATES DI	STRICT COURT		
FOR THE DISTRICT OF	DELAWARE		
QUALCOMM INCORPORATED,	)		
a Delaware corporation; and QUALCOMM TECHNOLOGIES, INC.,	)		
a Delaware corporation,	)		
a Delaware Corporation,	)		
Plaintiffs,	)		
	) C.A. No.		
VS.	) 24-490 (MN)		
• 5	)		
ARM HOLDINGS PLC., f/k/a	)		
ARM LTD., a U.K. corporation,	)		
, a. c co-p,	)		
Defendant.	)		
	)		
HIGHLY CONFIDENT ATTORNEYS' EYES DEPOSITION OF ZIAD JULY 7, 2025 SAN DIEGO, CALIFO	ONLY ASGHAR 5		
Reported by Cynthia J. Vega, CA CSR 6640, RI	MR, RDR, CCRR 95		
DIGITAL EVIDENCE	E GROUP		-
1730 M Street, NW,	Suite 812		
Washington, D.C	. 20036		
(202) 232-0			

7/7/2025

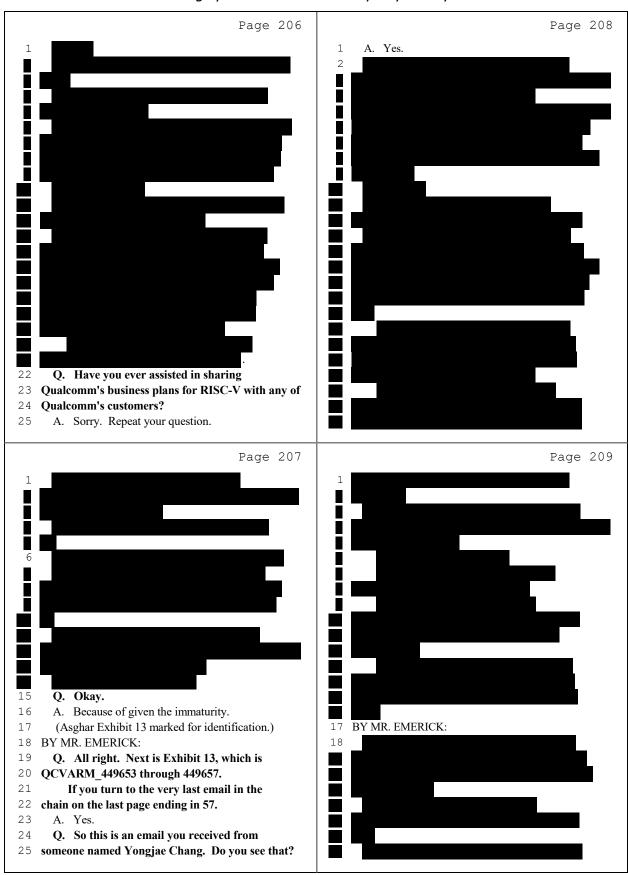
Qualcomm Incorporated, et al. v. Arm Holdings PLC, et al. Highly Confidential - Attorneys' Eyes Only



Ziad Asghar

7/7/2025

Qualcomm Incorporated, et al. v. Arm Holdings PLC, et al. Highly Confidential - Attorneys' Eyes Only Ziad Asghar



# EXHIBIT 32

Qualcomm Incorporated, et al. v. Arm Holdings PLC, et al. Jignesh Trivedi Highly Confidential - Pursuant to Protective Order

Page 1

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

QUALCOMM INCORPORATED, a
Delaware corporation, QUALCOMM
TECHNOLOGIES, INC., a Delaware
corporation

Plaintiff,

V.

C.A. No. 24-490-MN

ARM HOLDINGS PLC, f/k/a, ARM LTD. a U.K. corporation

Defendant.

\_\_\_\_\_

\*\*\*HIGHLY CONFIDENTIAL\*\*\*

\*\*\*PURSUANT TO PROTECTIVE ORDER\*\*\*

VIDEOTAPED DEPOSITION OF JIGNESH TRIVEDI

WEDNESDAY, JULY 9, 2025

SAN DIEGO, CALIFORNIA

REPORTED BY: PATRICIA Y. SCHULER, CSR NO. 11949

DIGITAL EVIDENCE GROUP
1730 M Street, NW, Suite 812
Washington, D.C. 20036
(202) 232-0646

14

16

17

18

19

21

22

23

24

25

list?

Qualcomm Incorporated, et al. v. Arm Holdings PLC, et al. Jignesh Trivedi Highly Confidential - Pursuant to Protective Order

Page 100 Page 98 1 THE WITNESS: Whether it is 1 my earlier answer. OOB has a list of tests that are partner-specific, that is a question for Arm. It based on a given target config a partner needs to helps us run that test. If the test is fixed run for compliance. But it also has results of 4 correctly, it should pass on our design. those tests on an Arm reference model and additional 5 BY MR. JANES: analysis if the test failed, indicating it's a test Q. An ACK patch is a fix to an ACK test defect or just an AEM defect. It has much more 7 error, bug, or issue, right? information than just the list. 8 A. Can you restate the question, please? 8 BY MR. JANES: 9 Q. Yup. An ACK patch is a fix to an ACK 9 Q. Okay. So the test list is the reference 10 test issue or error or bug, correct? 10 list, right? 11 A. Again, OOB has a list and additional 11 A. An ACK test defect is a badness in the 12 information. The reference list is part of that, 12 test which prevents us from verifying the architecture feature that it is targeting. 13 yes. Q. We've talked about something called OOB. 14 Q. Have you heard of something called a 14 15 **Design Under Test or a DUT?** 15 OOB sometimes stands "out of box" right? Actually, 16 A. Yes, I have. 16 sorry. Let me rephrase that. 17 O. What is a DUT? 17 OOB stands for "out of box," correct? 18 A. I have heard it referred to as that. 18 A. It's basically a very common word in 19 That is an Arm acronym, so I wouldn't want to verification. The design that you are verifying, 20 you wrap it around with a test bench, so you call 20 speculate. 21 it a design under test. 21 Q. Okay. Is OOB sometimes called a 22 Q. Is the DUT related to the OOB? 22 reference list? 23 A. To the extent that the OOB -- it 23 MS. NYARADY: Objection. represents the OOB is generated using a target THE WITNESS: It contains what we call a 2.4 configuration. The DUT is -- so the DUT is a set 25 reference list, but it has more information than Page 99 Page 101 1 just a reference list. of features that we are designing too. We reflect BY MR. JANES: that in the target config. And the target config Q. OOB contains a reference list? used to generate the OOB by Arm. 3 Q. The reference list that is in the OOB is A. OOB contains a reference list as well as a result of each test on the Arm reference model. a list that identifies a subset of the ACK tests Along with that, it contains a failure list as an 6 that are specific to a partner's -- sorry. Let me 7 additional part of the package, which dictates --7 ask that differently. or which -- "dictate" is the wrong word -- which The reference list that's within the OOB explains, if any failure in those tests, what were is a list identifying a subset of the ACK tests 10 the cause of the failure, whether it's a failure 10 that relate to an ALA partner's individual CPU because of AEM or the failure to do a test defect, 11 design, correct? so a partner should not their spend time analyzing 12 A. I will answer it in this way. We talked 12 13 those tests. 13 earlier that the -- you know, it contains close to

14

16

17

18

19

20

21

22

23

24

Q. Is OOB sometimes referred to as a target 15 config? A. It should not. Q. What's the difference between an OOB and a target config? A. A target config is a configuration file that a partner fills in and provides to Arm, from which Arm generates an OOB. Q. Is OOB sometimes referred to as a test

MS. NYARADY: Objection.

THE WITNESS: I'll rephrase or reiterate

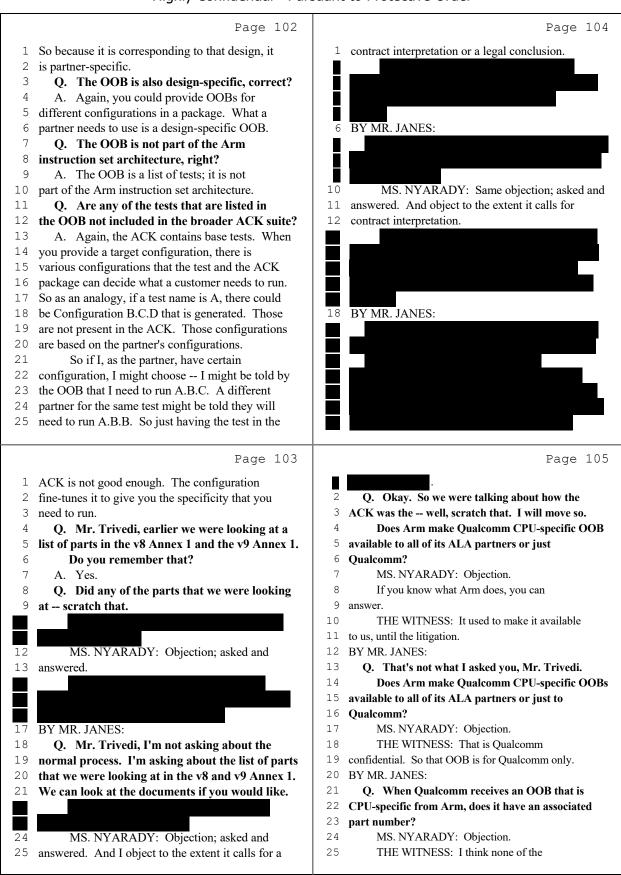
hundreds of thousands of tests. A partner applies their target configuration, gives it to Arm. A specific list of tests -- there are variations in the test names which make the test different based on your configuration. So precisely what, based on a partner's target configuration, a partner needs to run, that is what the OOB reference list part of the OOB Q. The OOB is partner-specific, correct?

A. Again, when we provide a target

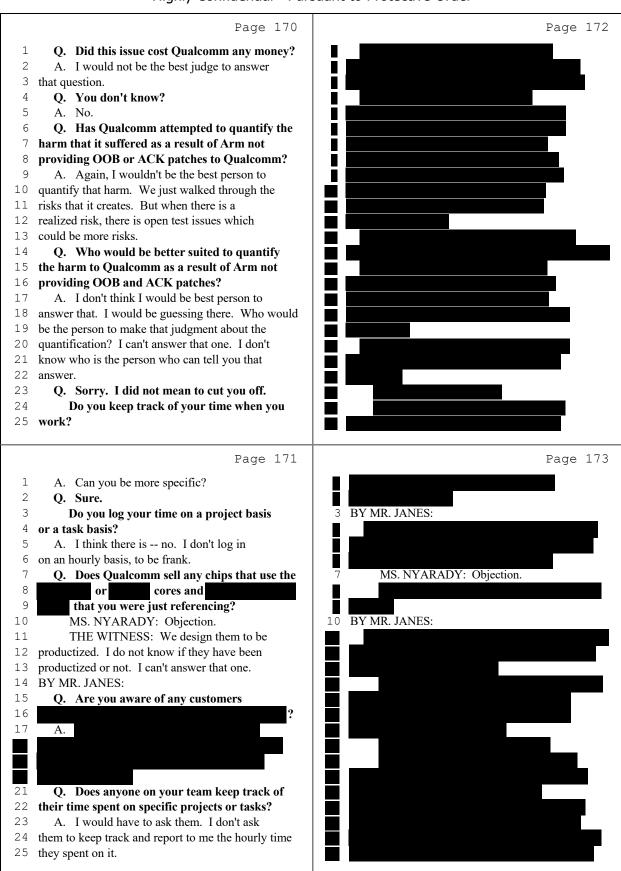
configuration for that design, Arm provides an OOB.

26 (Pages 98 to 101)

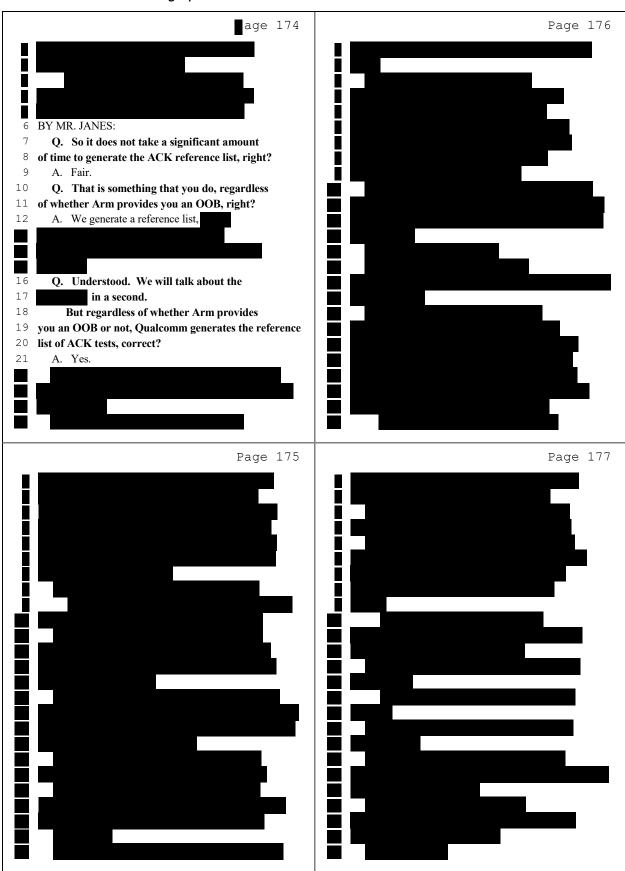
Qualcomm Incorporated, et al. v. Arm Holdings PLC, et al. Jignesh Trivedi Highly Confidential - Pursuant to Protective Order



Qualcomm Incorporated, et al. v. Arm Holdings PLC, et al. Jignesh Trivedi Highly Confidential - Pursuant to Protective Order



Qualcomm Incorporated, et al. v. Arm Holdings PLC, et al. Jignesh Trivedi Highly Confidential - Pursuant to Protective Order



45 (Pages 174 to 177)

# EXHIBIT 33

	Page 1
1	IN THE UNITED STATES DISTRICT COURT
	FOR THE DISTRICT OF DELAWARE
2	C.A. No. 24-490-MN
3	x
4	QUALCOMM INCORPORATED, a Delaware
5	corporation, QUALCOMM TECHNOLOGIES, INC.,
6	a Delaware corporation,
7	Plaintiffs,
8	- against -
9	ARM HOLDINGS PLC., f/k/a ARM LTD., a U.K.
10	corporation
11	Defendant.
12	x
13	July 30, 2025
14	9:10 a.m.
15	
16	*HIGHLY CONFIDENTIAL*
17	VIDEOTAPED DEPOSITION of
18	ANUPA GEORGE, held at the offices of PAUL WEISS
19	RIFKIND WHARTON & GARRISON, LLP, located at 1285
20	Avenue of the Americas, New York, New York
21	10019, before Danielle Grant, a Certified
22	Realtime Reporter and a Notary Public of the
23	State ofNew York.
24	
25	

#### HIGHLY CONFIDENTIAL ATTORNEYS EYES ONLY

	HIGHLY CONFIDE	NHAL	AI.	TORNETS ETES ONLT	
		Page 18			Page 20
1	does each C file correspond to one test		1	VIDEOGRAPHER: We're going to	
2	case?		2	go off the record. The time is	
3	MR. JANES: Object to form.		3	9:26 a.m. And this concludes	
4	A I would not call a C file a		4	Media Unit Number 1.	
5	test case. A test case could be in my		5	(Whereupon, at 9:26 a.m., a	
6	double-C files, mostly my double-S files		6	recess was taken to 9:30 a.m.)	
7	or dot-S files. One test case could be		7	(The proceeding resumed with	
8	structured in my double-dot-S files. So I		8	all parties present.)	
9	would not say it like that.		9	VIDEOGRAPHER: We're back on	
10	(Whereupon, the court reporter		10	record. The time is 9:30 a.m.	
11	requested clarification.)		11	And this is the start of Media	
12	<u> </u>		12	Unit Number 2.	
	THE WITNESS: Dot, as in				
13	"dot." Yeah.		13	Q So we were just talking about	
14	Q So when Arm creates a new test		14	the S files that you said you've worked on	
15	for a feature, is it writing multiple		15	for the ACK.	
16	C files and S files to test for that		16	And am I understanding	
17	feature?		17	correctly that multiple S files can cover	
18	MR. JANES: Object to form.		18	one test case?	
19	A Depends on the requirement of		19	A If structured that way, we	
20	that feature. Depends on how big that		20	could do it in one dot S file, or we can	
21	feature is or what has to be tested.		21	structure it in multiple dot-S file.	
22	Q Can you explain more what you		22	That's more like an ease of maintenance.	
23	are referring to?		23	Q Okay. And before, you were	
24	A It depends on the size and		24	saying the ACK tests are self-checking	
25	complexity of the feature. If it's if		25	tests; they either pass or they fail,	
	1 7	D 10		, , ,	D 21
1	it's a tiny volume versus tiny feature, we	Page 19	1	right?	Page 21
2	could do it in one test or do it in a		2	A Or skip.	
	number of tests.			<u> •</u>	
3			3	Q Or skip.	
4	Q But either way, you're writing		4	And skip is where the feature	
5	C files and S files to test for the		5	that is being tested for is just not	
6	feature; it's just a question of how many		6	implemented in the CPU, right?	
7	C files or S files you write?		7	A That is one reason. And	
8	MR. JANES: Object to form.		8	Q What are the other reasons?	
9	A So in my capacity as an ACK		9	A So the feature is there, but	
10	team member, I have not written C files.		10	for some other setup that is required to	
11	I have written dot-S files, and dot-S		11	test the feature, it's not in that partner	
12	files will have the logic of a test case.		12	implementation. So we skip it.	
13	And it requires other files to support		13	Q I'm sorry. I missed what you	
14	simulating it on a model.		14	said at the end: For some other reason,	
15	Q So if I understand correctly,		15	it's not in the partner implementation; so	
16	a single test can use multiple S files?		16	we skip; is that what you said?	
17	MR. JANES: Yeah. object to		17	A Yeah, any setup any setup	
18	form.		18	required to test the feature, if it's	
19	And you can answer.		19	missing, we skip the test.	
20	But real time is out I think.		20	•	
				Q Okay. And if a test fails, it	
21	Q Do you want to go off the		21	can fail for multiple reasons, right?	
22	record?		22	A Depends on how the test is	
23	MR. JANES: Yeah, let's go off		23	written.	
	the record and see if we can fix		24	Q But there could be a defect in	
24 25	this.		25	the partners implementation that causes	

6 (Pages 18 - 21)

#### HIGHLY CONFIDENTIAL ATTORNEYS EYES ONLY

		Page 22			Page 24
1	the test to fail, right?	rage 22	1	test or its other files will go into the	rage 24
2	A One of the reasons, or it		2	repository and be part of the quarterly	
3	could be a test that is		3	release, but whether a patch is required	
4	Q There could also be a test		4	or not is not unconditional. It doesn't	
5	defect?		5	happen always.	
6	A Yeah.		6	(Whereupon, the court reporter	
7	Q Okay. And Arm sometimes		7	requested clarification.)	
8	identifies defects in ACK tests on its		8	THE WITNESS: Test.	
9	own, right?		9	MR. JANES: I think it's "or."	
10	A We have a regular quality		10	(Whereupon, the court reporter	
11	maintenance that happens. So if issues		11	requested clarification.)	
12	are found, we fix them.		12		
13			13	Q So I don't think that quite	
	Q And when Arm identifies a test		l .	was answering the question that I was	
14	issue, the engineer in the CPU compliance		14	asking.	
15	team will go in and will correct the		15	I'm just saying on some	
16	C files or the S files that correspond to		16	occasions Arm does issue a patch to	
17	that defective test right?		17	partners to fix a test that a partner	
18	MR. JANES: Object to form.		18	identified as potentially defective,	
19	A If the quality issue is in a		19	right?	
20	C file or a dot-S file, yes. If not, we		20	MR. JANES: Object to form.	
21	fix the appropriate files that are		21	A So if the test is identified	
22	required.		22	as defective, the test is fixed. A patch	
23	Q And then, once those files are		23	is created on a conditional basis. So	
24	fixed, are they placed back into the ACK		24	what must be done is the test fix, and	
25	repository for the general ACK release?		25	whether a patch is created or not depends	
		Page 23			Page 25
1	A Vac	•	1	on the citration	
1	A Yes.		1	on the situation.	
2	Q Okay. So there's one ACK		2	Q I'm not asking for your	
2 3	Q Okay. So there's one ACK repository where the code for the ACK is		2 3	Q I'm not asking for your opinion on what you think must be done or	
2 3 4	Q Okay. So there's one ACK repository where the code for the ACK is maintained?		2 3 4	Q I'm not asking for your opinion on what you think must be done or not.	
2 3 4 5	Q Okay. So there's one ACK repository where the code for the ACK is maintained?  MR. JANES: Object to form.		2 3 4 5	Q I'm not asking for your opinion on what you think must be done or not. I'm just saying there are	
2 3 4 5 6	Q Okay. So there's one ACK repository where the code for the ACK is maintained?  MR. JANES: Object to form.  A I am not sure about that	·	2 3 4 5 6	Q I'm not asking for your opinion on what you think must be done or not.  I'm just saying there are situations where Arm issues patches to	
2 3 4 5 6 7	Q Okay. So there's one ACK repository where the code for the ACK is maintained?  MR. JANES: Object to form.  A I am not sure about that logistics, but from my perspective, once I		2 3 4 5 6 7	Q I'm not asking for your opinion on what you think must be done or not.  I'm just saying there are situations where Arm issues patches to partners to fix tests that the partner has	
2 3 4 5 6 7 8	Q Okay. So there's one ACK repository where the code for the ACK is maintained?  MR. JANES: Object to form.  A I am not sure about that logistics, but from my perspective, once I locally fix it, I would push it to a		2 3 4 5 6 7 8	Q I'm not asking for your opinion on what you think must be done or not.  I'm just saying there are situations where Arm issues patches to partners to fix tests that the partner has identified as potentially defective,	
2 3 4 5 6 7 8 9	Q Okay. So there's one ACK repository where the code for the ACK is maintained?  MR. JANES: Object to form.  A I am not sure about that logistics, but from my perspective, once I locally fix it, I would push it to a central repository. Whether that's the		2 3 4 5 6 7 8 9	Q I'm not asking for your opinion on what you think must be done or not.  I'm just saying there are situations where Arm issues patches to partners to fix tests that the partner has identified as potentially defective, right?	
2 3 4 5 6 7 8 9	Q Okay. So there's one ACK repository where the code for the ACK is maintained?  MR. JANES: Object to form.  A I am not sure about that logistics, but from my perspective, once I locally fix it, I would push it to a central repository. Whether that's the only repository or not, I am not sure.		2 3 4 5 6 7 8 9	Q I'm not asking for your opinion on what you think must be done or not.  I'm just saying there are situations where Arm issues patches to partners to fix tests that the partner has identified as potentially defective, right?  MR. JANES: Object to form.	
2 3 4 5 6 7 8 9 10 11	Q Okay. So there's one ACK repository where the code for the ACK is maintained?  MR. JANES: Object to form.  A I am not sure about that logistics, but from my perspective, once I locally fix it, I would push it to a central repository. Whether that's the only repository or not, I am not sure.  Q Okay. And in addition to Arm		2 3 4 5 6 7 8 9 10	Q I'm not asking for your opinion on what you think must be done or not.  I'm just saying there are situations where Arm issues patches to partners to fix tests that the partner has identified as potentially defective, right?  MR. JANES: Object to form.  A Sometimes. Depends on the	
2 3 4 5 6 7 8 9 10 11 12	Q Okay. So there's one ACK repository where the code for the ACK is maintained?  MR. JANES: Object to form.  A I am not sure about that logistics, but from my perspective, once I locally fix it, I would push it to a central repository. Whether that's the only repository or not, I am not sure.  Q Okay. And in addition to Arm identifying test defects, sometimes		2 3 4 5 6 7 8 9 10 11 12	Q I'm not asking for your opinion on what you think must be done or not.  I'm just saying there are situations where Arm issues patches to partners to fix tests that the partner has identified as potentially defective, right?  MR. JANES: Object to form.  A Sometimes. Depends on the situation.	
2 3 4 5 6 7 8 9 10 11 12 13	Q Okay. So there's one ACK repository where the code for the ACK is maintained?  MR. JANES: Object to form.  A I am not sure about that logistics, but from my perspective, once I locally fix it, I would push it to a central repository. Whether that's the only repository or not, I am not sure.  Q Okay. And in addition to Arm identifying test defects, sometimes partners also tell Arm that they have		2 3 4 5 6 7 8 9 10 11 12 13	Q I'm not asking for your opinion on what you think must be done or not.  I'm just saying there are situations where Arm issues patches to partners to fix tests that the partner has identified as potentially defective, right?  MR. JANES: Object to form.  A Sometimes. Depends on the situation.  Q When a patch is created, that	
2 3 4 5 6 7 8 9 10 11 12 13 14	Q Okay. So there's one ACK repository where the code for the ACK is maintained?  MR. JANES: Object to form.  A I am not sure about that logistics, but from my perspective, once I locally fix it, I would push it to a central repository. Whether that's the only repository or not, I am not sure.  Q Okay. And in addition to Arm identifying test defects, sometimes partners also tell Arm that they have identified what they think is a defective		2 3 4 5 6 7 8 9 10 11 12 13 14	Q I'm not asking for your opinion on what you think must be done or not.  I'm just saying there are situations where Arm issues patches to partners to fix tests that the partner has identified as potentially defective, right?  MR. JANES: Object to form.  A Sometimes. Depends on the situation.  Q When a patch is created, that is the same process that we just described	
2 3 4 5 6 7 8 9 10 11 12 13 14 15	Q Okay. So there's one ACK repository where the code for the ACK is maintained?  MR. JANES: Object to form.  A I am not sure about that logistics, but from my perspective, once I locally fix it, I would push it to a central repository. Whether that's the only repository or not, I am not sure.  Q Okay. And in addition to Arm identifying test defects, sometimes partners also tell Arm that they have identified what they think is a defective test, right?		2 3 4 5 6 7 8 9 10 11 12 13 14 15	Q I'm not asking for your opinion on what you think must be done or not.  I'm just saying there are situations where Arm issues patches to partners to fix tests that the partner has identified as potentially defective, right?  MR. JANES: Object to form.  A Sometimes. Depends on the situation.  Q When a patch is created, that is the same process that we just described with respect to fixing the defective	
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	Q Okay. So there's one ACK repository where the code for the ACK is maintained?  MR. JANES: Object to form.  A I am not sure about that logistics, but from my perspective, once I locally fix it, I would push it to a central repository. Whether that's the only repository or not, I am not sure.  Q Okay. And in addition to Arm identifying test defects, sometimes partners also tell Arm that they have identified what they think is a defective test, right?  A Sometimes, yes.		2 3 4 5 6 7 8 9 10 11 12 13 14 15 16	Q I'm not asking for your opinion on what you think must be done or not.  I'm just saying there are situations where Arm issues patches to partners to fix tests that the partner has identified as potentially defective, right?  MR. JANES: Object to form.  A Sometimes. Depends on the situation.  Q When a patch is created, that is the same process that we just described with respect to fixing the defective files, whether it's a C file or an S file,	
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	Q Okay. So there's one ACK repository where the code for the ACK is maintained?  MR. JANES: Object to form.  A I am not sure about that logistics, but from my perspective, once I locally fix it, I would push it to a central repository. Whether that's the only repository or not, I am not sure.  Q Okay. And in addition to Arm identifying test defects, sometimes partners also tell Arm that they have identified what they think is a defective test, right?  A Sometimes, yes.  Q And when a partner identifies		2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17	Q I'm not asking for your opinion on what you think must be done or not.  I'm just saying there are situations where Arm issues patches to partners to fix tests that the partner has identified as potentially defective, right?  MR. JANES: Object to form.  A Sometimes. Depends on the situation.  Q When a patch is created, that is the same process that we just described with respect to fixing the defective files, whether it's a C file or an S file, right?	
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	Q Okay. So there's one ACK repository where the code for the ACK is maintained?  MR. JANES: Object to form.  A I am not sure about that logistics, but from my perspective, once I locally fix it, I would push it to a central repository. Whether that's the only repository or not, I am not sure.  Q Okay. And in addition to Arm identifying test defects, sometimes partners also tell Arm that they have identified what they think is a defective test, right?  A Sometimes, yes.  Q And when a partner identifies what they believe to be a defective test,		2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18	Q I'm not asking for your opinion on what you think must be done or not.  I'm just saying there are situations where Arm issues patches to partners to fix tests that the partner has identified as potentially defective, right?  MR. JANES: Object to form.  A Sometimes. Depends on the situation.  Q When a patch is created, that is the same process that we just described with respect to fixing the defective files, whether it's a C file or an S file, right?  MR. JANES: Object to form.	
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19	Q Okay. So there's one ACK repository where the code for the ACK is maintained?  MR. JANES: Object to form.  A I am not sure about that logistics, but from my perspective, once I locally fix it, I would push it to a central repository. Whether that's the only repository or not, I am not sure.  Q Okay. And in addition to Arm identifying test defects, sometimes partners also tell Arm that they have identified what they think is a defective test, right?  A Sometimes, yes.  Q And when a partner identifies what they believe to be a defective test, Arm will sometimes issue what is called a		2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19	Q I'm not asking for your opinion on what you think must be done or not.  I'm just saying there are situations where Arm issues patches to partners to fix tests that the partner has identified as potentially defective, right?  MR. JANES: Object to form.  A Sometimes. Depends on the situation.  Q When a patch is created, that is the same process that we just described with respect to fixing the defective files, whether it's a C file or an S file, right?  MR. JANES: Object to form.  A No. Fixing is a fix of the	
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	Q Okay. So there's one ACK repository where the code for the ACK is maintained?  MR. JANES: Object to form.  A I am not sure about that logistics, but from my perspective, once I locally fix it, I would push it to a central repository. Whether that's the only repository or not, I am not sure.  Q Okay. And in addition to Arm identifying test defects, sometimes partners also tell Arm that they have identified what they think is a defective test, right?  A Sometimes, yes.  Q And when a partner identifies what they believe to be a defective test, Arm will sometimes issue what is called a patch to that partner for the test that		2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20	Q I'm not asking for your opinion on what you think must be done or not.  I'm just saying there are situations where Arm issues patches to partners to fix tests that the partner has identified as potentially defective, right?  MR. JANES: Object to form.  A Sometimes. Depends on the situation.  Q When a patch is created, that is the same process that we just described with respect to fixing the defective files, whether it's a C file or an S file, right?  MR. JANES: Object to form.  A No. Fixing is a fix of the files, C or S or any other files. It's	
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	Q Okay. So there's one ACK repository where the code for the ACK is maintained?  MR. JANES: Object to form.  A I am not sure about that logistics, but from my perspective, once I locally fix it, I would push it to a central repository. Whether that's the only repository or not, I am not sure.  Q Okay. And in addition to Arm identifying test defects, sometimes partners also tell Arm that they have identified what they think is a defective test, right?  A Sometimes, yes.  Q And when a partner identifies what they believe to be a defective test, Arm will sometimes issue what is called a patch to that partner for the test that has been identified as defective, right?		2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21	Q I'm not asking for your opinion on what you think must be done or not.  I'm just saying there are situations where Arm issues patches to partners to fix tests that the partner has identified as potentially defective, right?  MR. JANES: Object to form.  A Sometimes. Depends on the situation.  Q When a patch is created, that is the same process that we just described with respect to fixing the defective files, whether it's a C file or an S file, right?  MR. JANES: Object to form.  A No. Fixing is a fix of the files, C or S or any other files. It's different from a patch being created.	
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	Q Okay. So there's one ACK repository where the code for the ACK is maintained?  MR. JANES: Object to form.  A I am not sure about that logistics, but from my perspective, once I locally fix it, I would push it to a central repository. Whether that's the only repository or not, I am not sure.  Q Okay. And in addition to Arm identifying test defects, sometimes partners also tell Arm that they have identified what they think is a defective test, right?  A Sometimes, yes.  Q And when a partner identifies what they believe to be a defective test, Arm will sometimes issue what is called a patch to that partner for the test that has been identified as defective, right?  MR. JANES: Object to form.		2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	Q I'm not asking for your opinion on what you think must be done or not.  I'm just saying there are situations where Arm issues patches to partners to fix tests that the partner has identified as potentially defective, right?  MR. JANES: Object to form.  A Sometimes. Depends on the situation.  Q When a patch is created, that is the same process that we just described with respect to fixing the defective files, whether it's a C file or an S file, right?  MR. JANES: Object to form.  A No. Fixing is a fix of the files, C or S or any other files. It's different from a patch being created.  Q What is the difference between	
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	Q Okay. So there's one ACK repository where the code for the ACK is maintained?  MR. JANES: Object to form.  A I am not sure about that logistics, but from my perspective, once I locally fix it, I would push it to a central repository. Whether that's the only repository or not, I am not sure.  Q Okay. And in addition to Arm identifying test defects, sometimes partners also tell Arm that they have identified what they think is a defective test, right?  A Sometimes, yes.  Q And when a partner identifies what they believe to be a defective test, Arm will sometimes issue what is called a patch to that partner for the test that has been identified as defective, right?  MR. JANES: Object to form.  A So what is important when an		2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23	Q I'm not asking for your opinion on what you think must be done or not.  I'm just saying there are situations where Arm issues patches to partners to fix tests that the partner has identified as potentially defective, right?  MR. JANES: Object to form.  A Sometimes. Depends on the situation.  Q When a patch is created, that is the same process that we just described with respect to fixing the defective files, whether it's a C file or an S file, right?  MR. JANES: Object to form.  A No. Fixing is a fix of the files, C or S or any other files. It's different from a patch being created.  Q What is the difference between a patch being created and a fix being	
2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	Q Okay. So there's one ACK repository where the code for the ACK is maintained?  MR. JANES: Object to form.  A I am not sure about that logistics, but from my perspective, once I locally fix it, I would push it to a central repository. Whether that's the only repository or not, I am not sure.  Q Okay. And in addition to Arm identifying test defects, sometimes partners also tell Arm that they have identified what they think is a defective test, right?  A Sometimes, yes.  Q And when a partner identifies what they believe to be a defective test, Arm will sometimes issue what is called a patch to that partner for the test that has been identified as defective, right?  MR. JANES: Object to form.		2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	Q I'm not asking for your opinion on what you think must be done or not.  I'm just saying there are situations where Arm issues patches to partners to fix tests that the partner has identified as potentially defective, right?  MR. JANES: Object to form.  A Sometimes. Depends on the situation.  Q When a patch is created, that is the same process that we just described with respect to fixing the defective files, whether it's a C file or an S file, right?  MR. JANES: Object to form.  A No. Fixing is a fix of the files, C or S or any other files. It's different from a patch being created.  Q What is the difference between	

7 (Pages 22 - 25)

#### HIGHLY CONFIDENTIAL ATTORNEYS EYES ONLY

		Page 26			Page 28
1	analysis. We find out whether the issue		1	editing the files related to the ACK and	
2	is right or needs to be addressed. We		2	then wrapping them up in some compressed	
3	edit the test. And a patch is just a		3	file that will later be sent to the	
4	logistics process. It's just a one-click		4	partner, right?	
5	process where you get a zipped file a		5	MR. JANES: Object to form.	
6	zipped a compressed folder of the		6	A So I am involved in editing	
7	edited files.		7	the files. I'm involved in creating the	
8	Q What is included in the zipped		8	patch, if requested, and then providing it	
9	file?		9	to the partner enablement team. What	
10	A Depends on what is edited,		10	happens beyond that is not in my	
11	which file is edited.		11	responsibility, so	
12	Q The edited file you're		12	Q How do you know when you	
13	referring to is the fixed test, right?		13	should create a patch?	
14	MR. JANES: Object to form.		14	A That's not a decision that me,	
15	A The fix will be in the		15	as an engineer, would take. That's so	
16	sorry the edit will be made on the		16	my decision would stop and end at the	
17 18	files will be part of the patch		17 18	technical analysis and fixing the test.	
19	files will be part of the patch.  O Right, I think we're saving		19	If requested by the partner enablement team, I would create a patch and then give	
20	Q Right. I think we're saying the same thing, which is that the patch		20	it to them.	
$\frac{20}{21}$	itself contains the edited or fixed test		21	Q So the partner enablement team	
22	files?		22	tells you that they want you to create a	
23	MR. JANES: Object to form.		23	patch?	
24	A I would I would still frame		24	A So if the test needs a fix,	
25	it the other way, that the fixed or edited		25	let's say the issue requires a test fix,	
	a die chief way, that the inice of culted	Page 27		Total say une issue requires a cost in,	Page 29
1	files will be made into a patch, which is	rage 21	1	we fix the test. It goes to the	rage 29
2	a compressed zipped file or a folder.		2	repository. And once the partner	
3	Q Okay. And then those are sent		3	enablement team gets to know that the test	
4	to the partner?		4	required a fix, they will tell us whether	
5	A Whether they're sent as is or		5	a patch is required, I mean, needed to be	
6	whether it's wrapped in some other format		6	created or not.	
7	and sent, I am not sure. But this is what		7	Q Is there a document that	
8	a patch will have. It will have the		8	explains the patch design process or the	
9	edited files.		9	reasoning for when a patch should be	
10	Q Okay. But you know that that		10	created or when a patch should not be	
			1.1	<del>-</del>	
11	is when we talk about a patch that's		11	created?	
11 12	is when we talk about a patch that's sent to a partner, that's what we're		11	created?  A Not that I'm aware of as a	
	sent to a partner, that's what we're referring to, right?				
12	sent to a partner, that's what we're		12	A Not that I'm aware of as a	
12 13	sent to a partner, that's what we're referring to, right?		12 13	A Not that I'm aware of as a member of the ACS team. I mean, in my	
12 13 14 15 16	sent to a partner, that's what we're referring to, right?  MR. JANES: Object to form.  A That is what I think it happens, but I have not done it		12 13 14	A Not that I'm aware of as a member of the ACS team. I mean, in my capacity, that's not something that I look into.  Q Do you know why Arm sends	
12 13 14 15	sent to a partner, that's what we're referring to, right?  MR. JANES: Object to form.  A That is what I think it happens, but I have not done it personally. That's not my responsibility.		12 13 14 15 16 17	A Not that I'm aware of as a member of the ACS team. I mean, in my capacity, that's not something that I look into.  Q Do you know why Arm sends patches to partners?	
12 13 14 15 16 17 18	sent to a partner, that's what we're referring to, right?  MR. JANES: Object to form.  A That is what I think it happens, but I have not done it personally. That's not my responsibility. So I'm not sure.		12 13 14 15 16 17 18	A Not that I'm aware of as a member of the ACS team. I mean, in my capacity, that's not something that I look into.  Q Do you know why Arm sends patches to partners?  MR. JANES: Object to form.	
12 13 14 15 16 17 18 19	sent to a partner, that's what we're referring to, right?  MR. JANES: Object to form.  A That is what I think it happens, but I have not done it personally. That's not my responsibility. So I'm not sure.  Q But you are involved in the		12 13 14 15 16 17 18 19	A Not that I'm aware of as a member of the ACS team. I mean, in my capacity, that's not something that I look into.  Q Do you know why Arm sends patches to partners?  MR. JANES: Object to form. A Again, that's not something	
12 13 14 15 16 17 18 19 20	sent to a partner, that's what we're referring to, right?  MR. JANES: Object to form.  A That is what I think it happens, but I have not done it personally. That's not my responsibility. So I'm not sure.  Q But you are involved in the development of patches, right?		12 13 14 15 16 17 18 19 20	A Not that I'm aware of as a member of the ACS team. I mean, in my capacity, that's not something that I look into.  Q Do you know why Arm sends patches to partners?  MR. JANES: Object to form.  A Again, that's not something that I would look at. So my role starts	
12 13 14 15 16 17 18 19 20 21	sent to a partner, that's what we're referring to, right?  MR. JANES: Object to form.  A That is what I think it happens, but I have not done it personally. That's not my responsibility. So I'm not sure.  Q But you are involved in the development of patches, right?  A I'm involved in the creation		12 13 14 15 16 17 18 19 20 21	A Not that I'm aware of as a member of the ACS team. I mean, in my capacity, that's not something that I look into.  Q Do you know why Arm sends patches to partners?  MR. JANES: Object to form.  A Again, that's not something that I would look at. So my role starts at whether a patch is requested by the	
12 13 14 15 16 17 18 19 20 21 22	sent to a partner, that's what we're referring to, right?  MR. JANES: Object to form.  A That is what I think it happens, but I have not done it personally. That's not my responsibility. So I'm not sure.  Q But you are involved in the development of patches, right?  A I'm involved in the creation of patches.		12 13 14 15 16 17 18 19 20 21 22	A Not that I'm aware of as a member of the ACS team. I mean, in my capacity, that's not something that I look into.  Q Do you know why Arm sends patches to partners?  MR. JANES: Object to form.  A Again, that's not something that I would look at. So my role starts at whether a patch is requested by the partner enablement team or not.	
12 13 14 15 16 17 18 19 20 21 22 23	sent to a partner, that's what we're referring to, right?  MR. JANES: Object to form.  A That is what I think it happens, but I have not done it personally. That's not my responsibility. So I'm not sure.  Q But you are involved in the development of patches, right?  A I'm involved in the creation of patches.  Q Okay. And when you say you're		12 13 14 15 16 17 18 19 20 21 22 23	A Not that I'm aware of as a member of the ACS team. I mean, in my capacity, that's not something that I look into.  Q Do you know why Arm sends patches to partners?  MR. JANES: Object to form.  A Again, that's not something that I would look at. So my role starts at whether a patch is requested by the partner enablement team or not.  Q And when there are test	
12 13 14 15 16 17 18 19 20 21 22	sent to a partner, that's what we're referring to, right?  MR. JANES: Object to form.  A That is what I think it happens, but I have not done it personally. That's not my responsibility. So I'm not sure.  Q But you are involved in the development of patches, right?  A I'm involved in the creation of patches.		12 13 14 15 16 17 18 19 20 21 22	A Not that I'm aware of as a member of the ACS team. I mean, in my capacity, that's not something that I look into.  Q Do you know why Arm sends patches to partners?  MR. JANES: Object to form.  A Again, that's not something that I would look at. So my role starts at whether a patch is requested by the partner enablement team or not.	

8 (Pages 26 - 29)

### EXHIBIT 34

### Case 1:24-cv-00490-MN Document 572-1 Filed 11/21/25 Page 614 of 616 PageID #: 27107

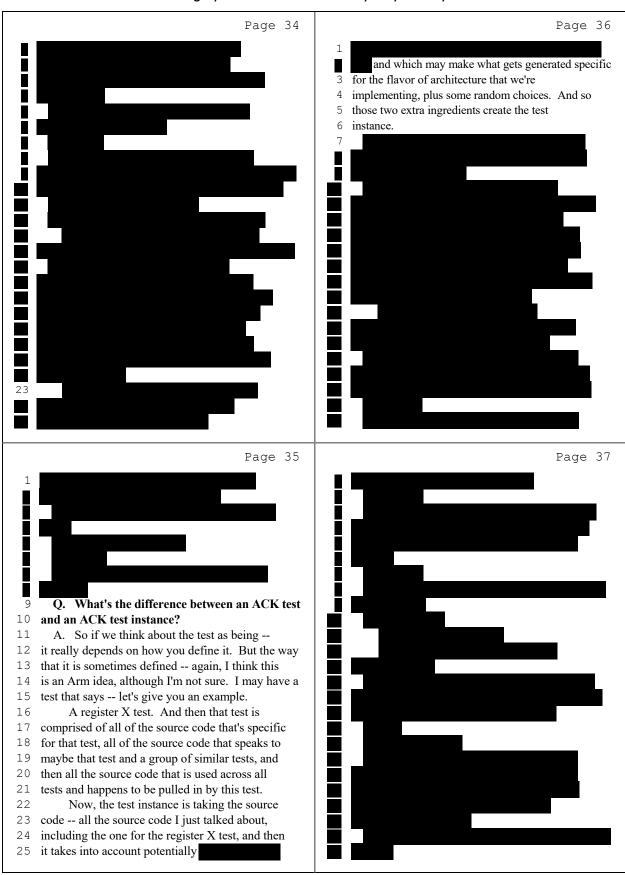
7/3/2025

Qualcomm Incorporated, et al. v. Arm Holdings PLC, et al. Jeffrey B. Golden Highly Confidential - Attorneys' Eyes Only

		Pag
IN THE UNITED STATES DI	STRICT COURT	
FOR THE DISTRICT OF	DELAWARE	
QUALCOMM INCORPORATED,	)	
a Delaware corporation; and	)	
QUALCOMM TECHNOLOGIES, INC.,	)	
a Delaware corporation,	)	
	)	
Plaintiffs,	)	
	) C.A. No.	
vs.	) $24-490 \text{ (MN)}$	
	)	
ARM HOLDINGS PLC., f/k/a	)	
ARM LTD., a U.K. corporation,	)	
	)	
Defendant.	)	
HIGHLY CONFIDENT ATTORNEYS' EYES  VIDEO DEPOSITION OF JEFF  JULY 3, 202  SAN DIEGO, CALIF	ONLY REY B. GOLDEN 5	
Reported by Cynthia J. Vega, CA CSR 6640, R	MR, RDR, CCRR 95	
DIGITAL EVIDENCE		
1730 M Street, NW, S	uite 812	
	uite 812 20036	

7/3/2025

Qualcomm Incorporated, et al. v. Arm Holdings PLC, et al. Jeffrey B. Golden Highly Confidential - Attorneys' Eyes Only



7/3/2025

Qualcomm Incorporated, et al. v. Arm Holdings PLC, et al. Jeffrey B. Golden Highly Confidential - Attorneys' Eyes Only

